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ZONE 1 THE FAR NORTH: ALASKA, YUKON and NORTHWEST TERRITORIES. Coordinator: Kenelm W. Philip (KWP). Contributors: J. Běliček (JB), R. P. Meyer (RPM), E. M. Shull, and collectors for the Alaska Lepidoptera Survey. Emphasis is on previously unreported localities and species. Note regarding Alaska Lepidoptera Survey: K. Philip (with logistic support from the National Park Service) visited the Alaska extension of the Ogilvie Mountains, about 25 miles north of Eagle on the AK/YT border, for 5 days in mid-June. On 19 June collecting was done on the upper Taylor Highway, and from 20 June thru 4 July the Dempster Highway was collected up to the NWT border. From 5-11 July short visits were made to Keno Hill, Lake Laberge, Burwash Creek in the Yukon Territory, and the Nabesna Road in east central Alaska. The weather was poor in the Alaskan Ogilvies, and mixed on the Dempster Highway (torrential rains in the Richardson Mtns., with both snow and unusually good conditions at North Fork Pass). From 5-11 July the weather was clear and very warm with some afternoon thunderstorms. Note on nomenclature: Species names follow Lep. Soc. Memoir #3.

NORTHWEST TERRITORIES. Weather: The Yellowknife area was exceptionally warm and dry (producing an outbreak of grasshoppers at the airport).

BUTTERFLIES: YELLOWKNIFE (JB) - Prelude Lake Campground, approx 30 mi east of Yellowknife, 11 June, Pterourus glaucus, Pieris napi, Celastrina argiolus, Glaucopsyche lygdamus, Clossiana frigga, C. freija, Oeneis chryxus. Yellowknife airport, 13 June, Erynnis icelus, Glaucopsyche lygdamus, Incisalia polia, Everes amyntula, Clossiana frigga, Nymphalis antiopa, Oeneis chryxus.

YUKON TERRITORY. Weather: The Whitehorse area had (according to inhabitants, via JB) the best summer ever. On the Dempster Highway, late June was mixed (including a torrential downpour in the Eagle Plains and the Richardson Mts.), but then early July, after a snowstorm, was excellent -- even at North Fork Pass! On the whole, the season was somewhat advanced, with late-summer species in early July.

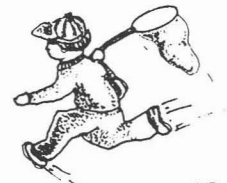
NOTE: The kilometer posts on the Dempster Highway have been repositioned since 1987. Apparently the section along the west foot of the Richardson Mts has lost 4 out of 50 kilometers! Here is a list of current vs pre-1987 kilometerpost readings for a number of collecting sites, all in the form 'new/old': 134.5/136.5; 153/155 (Windy Pass); 207.8/207.8; 266/264; 272.5/270.5; 410/408; 412.5/411; 417.3/416; 463.3/466.

BUTTERFLIES: RICHARDSON MTS (KWP) - The usual species were present. Erebia mackinleyensis was quite abundant on the gravel ridges at km 463.3, 417.3, and 412.5, and Clossiana improba was flourishing at km 412.5. **EAGLE PLAINS (KWP)** - Km 266 Dempster Highway, 22, 29 June, additional species (see 1987 Season Summary), Papilio machaon, Colias canadensis, Procllossiana eunomia, Coenonympha kodiak, Oeneis melissa. Clossiana distincta was again quite common here. **OGILVIE MTS (KWP)** - Windy Pass, 20-21, 29 June, 2-3 July, additional species (see 1973, 1979, 1981, 1984-7 Season Summaries), Lycaena phlaeas. North Fork Pass, 20, 30 June and 2-4 July (see 1973, 1981, 1984, 1987 Season Summaries), additional species, Parnassius phoebus. P. phoebus was fairly abundant, and presumably was missed in the past owing to its late flight combined with the notoriously poor weather at North Fork Pass. Oeneis excubitor was present at Windy Pass, but in lower numbers than in 1984 and 1987. **SILVER TRAIL HIGHWAY (KWP)** - Keno Hill, 5500-6000 feet, 5-7 July, Papilio machaon, Pontia occidentalis, Pieris napi, Colias hecla, C. philodice, C. palaeno, Boloria napaea, Clossiana polaris, C. chariclea, Oeneis melissa, O. polixenes. The high elevation of Keno Hill tends to retard the flight season, but this year there were some late summer species flying in early July (along with some early species). **KLONDIKE LOOP HIGHWAY (KWP)** - Lake Laberge, steppe habitat, 7-8 July, Parnassius phoebus (common), Colias alexandra, Agrion rusticus, Euphydryas anicia. No other species seen in the steppe habitat, probably because the clear hot weather had pushed the season. **ALASKA HIGHWAY (KWP)** - Burwash Creek, 8-9 July, additional species (see the 1982 Season Summary), Phycoides pratensis, Erebia theano.

MOTHS: RICHARDSON MTS (KWP) - Km 417.3 Dempster Highway, 28 June, Platartia parthenos.



1989 Season Summary



ALASKA. Weather: Heavy rain in the Interior in late June, clear and hot in early July. The collecting season began on schedule, but the heat in July accelerated the late summer species. New STATE record: Colias alexandra, from the Nabesna Road. Note that this species has been listed as occurring in Alaska in the past, but in 1986 C. Ferris and KWP went through the available data and concluded that all previous records that could be checked were misidentifications of C. canadensis. Range extensions: Nymphalis milberti, from Wickersham Dome (RPM). The only previous records for this species in Interior Alaska were from Eagle. Speyeria mormonia from Jack Creek, Nabesna Road (KWP). Other Alaskan sites for this species are in the vicinity of Haines, and in southcentral Alaska, (Kenai Peninsula, and Chugach Mountains near Palmer and Valdez). New collecting sites: Ogilvie Mountains about 25 miles north of Eagle, on the AK/YT border (in the Yukon-Charley Rivers National Park); Access to this site was by helicopter, and base camp was set up at 4000 feet on a ridgetop near VABM 'Pack'; Habitats were alpine tundra and scree, with tongues of taiga at lower elevations. Nabesna Road, east central Alaska (in the Wrangell-St. Elias National Park); The portions of the Nabesna Road beyond the Copper River/Yukon River watershed appear to contain a butterfly fauna with some affinities to the Kluane Lake region; The habitat here was taiga near treeline.

BUTTERFLIES: YUKON-CHARLEY RIVERS NATIONAL PARK (KWP) - Ogilvie Mts near VABM 'Pack', 25 miles north of Eagle, 3400'-4340', 13-16 June, Papilio machaon, Pterourus glaucus, Pontia occidentalis (sight), Pieris napi, Glaucopsyche lygdamus, Celastrina argiolus, Clossiana polaris, C. distincta, Oeneis melissa, Erebia fasciata, E. magdalena, mackinlevensis, E. youngi. TAYLOR HIGHWAY (KWP) - Chicken, 11 June, additional species (see 1986 Season Summary), Papilio machaon, Pieris napi, Colias philodice, Clossiana friqga. Colias canadensis was flying along the roadsides, as in 1986. King Creek, mile 120.5 Taylor Highway, 11, 19 June, Colias canadensis, C. philodice, Euchloe creusa, E. ausonides, Clossiana frieja. Discovery Fork, mile 147-149 Taylor Highway, 19 June, Carterocephalus palaemon, Parnassius eversmanni, Euchloe creusa, Glaucopsyche lygdamus, Clossiana frieja, C. chariclea, Erebia disa, E. theano, E. epipsodea. Colias canadensis was flying along the roadsides from mile 120.5 to 129 Taylor Hwy. YUKON-TANANA UPLANDS (RPM) - Wickersham Dome, 26-27 June, additional species (see the 1987 and 1988 Season Summaries), Carterocephalus palaemon, Hesperia comma, Pterourus glaucus, Plebejus saepiolus, Vacciniina optilete, Nymphalis milberti, Basilarchia arthemis, Erebia disa. ALASKA RANGE (RPM) - Denali Highway, miles 11-13, 4-7 July, additional species (see 1973, 1976, 1979 Season Summaries), Euchloe ausonides, Colias philodice, Erebia magdalena mackinlevensis, Oeneis polixenes. NABESNA ROAD, Wrangell - St. Elias National Park (KWP) - Mile 26.3 Nabesna Road, 10 July, Colias palaeno, Epidemia dorcas, Lycaeides idas, Clossiana chariclea, Erebia theano. Sportsmen's Paradise Lodge airstrip, mile 28.5 Nabesna Road, 10 July, Colias canadensis, C. alexandra, Lycaeides idas, Proclissiana eunomia, Clossiana chariclea, Oeneis bore. Trail Creek, mile 29.5 Nabesna Road, 10 July, Colias alexandra. Jack Creek, mile 35.8 Nabesna Road, 10 July, Colias canadensis, C. philodice, C. palaeno, C. alexandra, Lycaeides idas, Plebejus saepiolus, Clossiana chariclea, Speyeria mormonia, Oeneis bore, Erebia theano.



ZONE 2 PACIFIC NORTHWEST: IDAHO, OREGON, WASHINGTON, BRITISH COLUMBIA. Coordinator: Jon H. Shepard (JHS). Contributors: Lars Crabo (LC), Vern Covlin (VC), C. D. Ferris (CDF), Chris Guppy (CG), Paul Handy (PH), John Hinchliff (JH), Lloyd Janz (LJ), Gary Lindberg (GL), John T. McBurney (JTM), Huber Moore (HM), Jon P. Pelham (JPP), Robert M. Pyle (RMP), Don Severns (DS), Sigrid M. Shepard (SMS), Ken Smith (KS), Steve Summers (SS). General Collecting Conditions: The summer was generally cool and wet throughout the area, except for the northern half of BC. Northern BC had almost record high temperatures for the fourth year in a row, plus high population numbers of most species. Fall and Winter conditions in the entire region have been warm and wet. For the first time ever, a butterfly was seen on the wing in Washington State on Dec 31. Robert Pyle made the remarkable observation, citing a fresh Vanessa atalanta specimen feeding on rotten apples. Some observers reported larger than usual numbers of Neophasia menapia; Sproule Cr, BC (JHS), Spokane Co, WN (JTM), Wahkiakum Co, WN (RMP), Kootenai Co, ID (JTM). Abbreviations: assoc = associated; Cr = Creek; Cyn = Canyon; el = elevation; FR = Forest Road; Hwy = Highway; km = kilometer; L = Lake; mi = miles; MP = milepost; Mtn = Mountain; Nat = Natural; Natl = National; NF = National Forest; nr = near; Pk = Park; Prov = Provincial; R = River; Rd = Road; SR = State Road; St = State. County names in caps denote county records. LATE, DISTRICT, PROVINCE, NORTH, SOUTH, EAST in caps denote records for those categories.

MIGRATORY SPECIES: D. plexippus spread further north than usual, being observed 5 mi E of Kelowna, BC (JHS) and at Cranbrook, BC (LJ). Vanessa species were rare. One citing of V. cardui in Crook Co, OR (CDF). One citing each of V. atalanta & virginiensis in Wahkiakum Co, WN (RMP). Nymphalis californica distribution greatly reduced and retreating from the most recent outbreak. Citings were the same as for the Vanessa species above with another one for Kittitas Co, WN (CDF).

IDAHO. CDF found snow in late May and poor collecting in early June. JTM found the normal butterflies in late July at Post Falls. Both commented on low numbers of butterflies.

BUTTERFLIES: P. ruralis, SR 36, between MP 16-17, 6600' Cache NF, Franklin Co, 22 May (CDF). E. nivalis, G. editha, E. enoptes, G. piasus, I. acmon, S. mormonia, all COUNTY RECORDS, and all from FR 5000, 3.7 mi from forest boundary, Sawtooth NF, TWIN FALLS Co, 23-24 June (CDF).

OREGON. CDF found weather good and collecting poor in NW Oregon in July. Other collectors did not comment, but the lack of records indicates the poor conditions. JH has reported several COUNTY records gained by the Pacific Northwest Lepidoptera Survey from previous years, which are included.

BUTTERFLIES: T. pylades, Illinois R Rd, JOSEPHINE Co, 20 May (DS). T. diversus, Klamath R Cyn, KLAMATH Co, 5 June (JH). E. afranius, Long Cr Summit, GRANT Co, STATE RECORD, 25 June (CDF). E. peckius, 6 mi N of Halfway, BAKER Co, 23 June 1985 (KS). A. campestris, Mt Thielsen, KLAMATH Co, 6 Aug (SS). E. hyantis, Mt Ashland, JACKSON Co, July ?? (DS). C. interior, Blue Mtn Summit, GRANT Co, 7 July (CDF). H. titus, Klamath Falls, KLAMATH Co, 9 Aug (SS) and Off E Pine Rd, BAKER Co, 22 July 1985 (KS). S. saepium, Fish Lake Rd, BAKER Co, 7 Sept 1982 (KS). C. dumetorum, Bohemia Mines, LANE Co, 28 July (DS). S. melinus, Tollgate Mtn Rd, UNION Co, 30 June 1988 (CDF). B. selene, 3 mi N of Halfway, BAKER Co, 17 May 1980 (KS). B. epithore, Fish Lake Rd, BAKER Co, 14 June 1982 (KS). J. satyrus, Deschutes St Park, SHERMAN Co, 9 April (GL). N. vaualbum, 3 mi N of Halfway, BAKER Co, 14 April 1988 (KS). P. coenia, Burnt River Canyon, W of Durkee, BAKER Co, 11 Aug (KS). E. epipsodea, Middle Fork Canyon Cr, GRANT Co, 27 June (CDF).

WASHINGTON. No comments on general conditions. JH and JHS both found records overlooked from previous years.

BUTTERFLIES: E. communis, High Line Canal, Wenatchee, Chelan Co, 17 Oct, LATE (RMP). P. ruralis, Quinault Fish Hatchery, GRAYS HARBOR Co, 23 May 1970 (PH). P. sonora, former Weyco Camp, Fossil Creek Rd, WAHAKIUM Co, 6 July (RPM). P. beckeri, Hazel Dell, CLARK Co, 27 July 1969 (PH); Carson Natl Fish Hatchery, SKAMANIA Co, 12 July 1969 (PH). M. rosneri, Hwy 395, S of Orient at Boulder Cr, FERRY Co, 2 June (JHS). E. amyntula, head of Hawk Cr., LINCOLN Co, 28 May 1984 (JHS, SMS). C. argiolus, Swede Park, Gray's River, Wahkiakum Co, 6 Oct, LATE (RMP). A. rusticus, Badger Mtn,

DOUGLAS Co, 16 June (RMP). S. callippe, Hawk Cr, LINCOLN Co, 5 June 1987 (JHS). P. tharos, Fort Spokane, LINCOLN Co, 6 June 1987 (JHS). N. californica, Titchenal Cyn Nat Area, DOUGLAS Co, 17 April (RMP). A. milberti, Lookout Mtn, SKAMANIA Co, 11 July 1971 (PH). C. tullia, logging rd 100' S of Hendrickson Cyn (old growth), WAHIAKIM Co, 10 Sept (RMP). C. sthenele, upper Brown's Cyn, DOUGLAS Co, 16 June (RMP).

BRITISH COLUMBIA. Conditions poor in southern half, good in northern half. Moths which hibernated as adults or eggs were very rare. Presumably this is a follow up of the drought in late 1988 plus the record cold conditions in late Jan 1989. LC & JPP had excellent collecting in the Peace District in early June and early July.

BUTTERFLIES: E. centaureae, bog 4.3 mi W of Goodlow, DISTRICT, 3 June (LC, JPP). C. palaemon, 3.6 mi N of Hwy 97 on W rd to Sunset Prairie, 3380', DISTRICT (LC, JPP). P. oregonius, Soda Cr Rd, 12 mi N of Williams Lake, NORTH, 11 June (JHS, SMS). P. protodice, Cranbrook, PROVINCE, 20 Sept (LJ). A. sara, Skagway-Carcross Rd, 1 km S of Yukon border, NORTH, 8 July (JHS, SMS). C. philodice vitabunda, km 85, Mt Klapan Rd, SOUTH, 11 July (JHS, SMS). C. interior, bog 8.1 mi W of Goodlow, DISTRICT, 6 July (LC, JPP). C. nastes, Alaska Hwy at Summit Pass, DISTRICT, 5 July (LC, JPP). L. xanthoides dione, Elizabeth L nr Cranbrook, PROVINCE, 8 Aug (LJ). L. dorcas, bog 8.1 mi W of Goodlow, DISTRICT, 6 July (LC, JPP). C. sheridani, Elk Lakes Prov Park, el 6500', DISTRICT & EAST, 13 June 1988 (CG). C. argiolus, Hwy 97 between Summit L & Bear L, 2300', DISTRICT, 2 June (LC, JPP). A. rusticus, Alaska Hwy at Summit Pass, DISTRICT, assoc with legumes, 5 July (LC, JPP). A. mormo, nr Keremeos, DISTRICT, 11 Aug - 1 Oct (HM). B. bellona, N bank Peace River, nr Clayhurst, DISTRICT, 3 June (LC, JPP). B. epithore, km 95, Mt Klapan Rd, NORTH, 11 July (JHS, SMS). B. natazhati, Alaska Hwy at Summit Pass, DISTRICT, 4 June and 5 July (LC, JPP). B. astarte astarte, Lake Ealue, NORTH, 11 July (JHS, SMS). B. titania grandis, Rd to Whiteswan Lake, SOUTH, 14 July (LJ). P. campestris, Alaska Hwy W of Summit Pass, el 2600', DISTRICT, 4 June (LC, JPP). C. tullia mixturata, Grizzly Cr E of Mt Klapan, SOUTH, 12 July (JHS, SMS). C. oetus, N bank of Beaton R, NE of Bridge, 1900's, DISTRICT, 6 July (LC, JPP). E. epipsodea, N bank Peace River, nr Clayhurst, DISTRICT, 3 June (LC, JPP). O. jutta, bog 4.3 mi W of Goodlow, DISTRICT, 3 June (LC, JPP).

MOTHS: Phragmatobia assimilis, 3.6 mi N of Hwy 97 on W rd to Sunset Prairie, 3380', PROVINCE (LC). Ctenucha virginica, bog 8.1 mi W of Goodlow, PROVINCE, 6 July (LC). Trichoplexia exornata, Lac La Hache Prov Pk, PROVINCE, 11 June (JHS).



ZONE 3 SOUTHWEST: ARIZONA, CALIFORNIA, NEVADA. Coordinator: R. L. Langston (RL). Contributors: R. A. Bailowitz (RAB), J. P. Brock (JPB), L. Crabtree (LC), K. Davenport (KD), T. E. Dimock (TED), J. F. Emmel (JFE), C. D. Ferris (CDF), Y. Hashash (YH), R. Kelson (RK), R. H. Leuschner (RHL), J. T. McBurney (JTM), J. G. Pasko (JGP), G. Pratt (GP), J. & F. Preston (J&FP), R. Rice (RR), V. Rice (VR), K. Roever (KR), A. M. Shapiro (AMS), O. Shields (OS), W. L. Swisher (WLS), P. M. Thompson (PMT), J. B. Vernon (JBV) and A. D. Warren (ADW). Abbreviations: Cyn = Canyon; Cpzd = Campground; NF = National Forest; NP = National Park; ovip = ovipositing. COUNTY, NORTH, EARLY, LATE, HIGH, LOW, INLAND, COASTAL, etc. in caps denote supposed records for those categories. Most of the Southwest experienced a third year of drought, resulting in EARLY records for some species, and very LATE dates for others. Migrations and migratory species were reported for AZ and CA. The butterfly species are in the sequence of Miller & Brown, 1981, and the revision by Ferris, 1989.

ARIZONA. Contributors: RAB, JPB, KD, CDF, YH, RHL, RR, VR, KR, WLS and PMT. Thirteen COUNTY records for butterfly species, with generally NORTH range extensions. Many of the more common species had EARLY flights, plus some of the rarities reported below. A variety of moths reported, but none determined as new for COUNTY, or for any known range extensions.

No spring rainfall in AZ after the first week of Feb 1989 (WLS). The season was one of the hottest and driest on record. The first 100° day was in early April in Tucson. The season progressed with an all-time record number of 100°+ days for the year (RAB). The lack of winter precipitation and a warm spring led to the very early emergence of many species, particularly in the 6000'-8000' elevations where flights were active in April (KR). The scorching heat, coupled with an annual deficit for rainfall, made 1989 a painful collecting season (RAB). Despite the extended hot and dry conditions, plenty of good species around -- most of the skippers in the southern part of the state did extremely well (JPB). Moderate influxes of some species, [from the south], were reported. Mid-summer diversity was good, but numbers of individuals were very low (RAB). In Cochise and Santa Cruz Counties, butterflies were uncommon during the first week of August, with the exception of skippers which were having a banner year (CDF)! The unusually dry period from mid-Aug to mid-Sept, normally the grand finale for the summer chubascos, effectively closed down the Mexican influx (RAB). Fall collecting was poor, with the first frosts in late Nov (RAB).

MIGRATORY SPECIES: Moderate influxes of Urbanus dorantes, Phoebis sennae marcellina, P. agarithe, Kricogonia lyside and Eurema proterpia were reported (RAB). Nymphalis californica - Hibernants common and ovipositing on Ceanothus fendleri, Dry Lake Lookout, Graham Co, 14 April (KR); Freshly emerged adults abundant (moving east) along the Mogollon Rim in Coconino, Gila and Navajo Counties from Payson to near Heber, 18 May; Migration was still evident in same area 7 June with many "road kills" (KR). Vanessa cardui - One or two along Hwy 60 between Hope, Mojave Co and Aguila, Maricopa Co, 18 March (WLS). V. cardui and Danaus plexippus - Sycamore Cyn, SE of Patagonia, Santa Cruz Co, 31 July -- sighted, but not in migratory numbers (CDF).

BUTTERFLIES: Pyrrhopyge araxes arizonae ovipositing on Quercus oblongifolia, Sycamore Cyn, Santa Cruz Co, 20 Aug (KR). Codatractus arizonensis ovip on Eysenhardtia polystachya, 2 mi W of Peña Blanca Lake, Santa Cruz Co, 5 Aug (KR). Urbanus dorantes larvae coll & reared on Clitoria mariana, Sycamore Cyn, 20 Aug (KR). Thorybes mexicana dobra ovip on Lathyrus arizonicus, Hart Cyn, Coconino Co, 7 June (KR). T. valerianus ovip on Tephrosia leiscarpa, Sycamore Cyn, 1 Aug, and reared (KR). Cogia hippalus ovip on Acacia angustissima and larvae common, Peña Blanca Lake, 5 Aug (KR). C. hippalus & C. caicus moschus, Sycamore Cyn, 31 July and Silver Creek W of Portal, Cochise Co, 4 Aug (CDF). Systasa pulverulenta, widely distributed in COCHISE, PIMA & SANTA CRUZ Cos, late Aug - Sept, often sympatric with S. zampa (KR). One adult S. zampa in lower canyon of Hualapai Mtns, 4 Sept -- 3rd record for Mohave Co (KD) -- 1st by KD & R. P. Meyer, 1988. Chiomara asychis georgina, frequent in Pima, Santa Cruz Cos in Oct (KR); plus two records from Cochise Co, Guadalupe Cyn, Peloncillo Mtns, 10 Oct; and San Pedro River near Hereford, 20 Oct (KR). Staphylus ceos and Pyrgus philetas, Sycamore Cyn, 31 July and canyon W of Peña Blanca Lake, 1-2 Aug, both Santa Cruz Co (CDF). E. xanthus, at several sites S of Jacob Lake, Kaibab Plateau, 7000'-8500', Coconino Co, early May before freezing and snow on 11-13 May (KR). Erynnis funeralis larvae on Cracca edwardsii, 3 mi SW of Patagonia, Santa Cruz Co, 18 Aug (KR). Nastra julia, 2 mi S of Parker, MOHAVE Co, 26 Oct (KR) -- earlier records only from Yuma Co. Lerema accius, San Pedro River near Miracle Valley, 20 Oct -- 3rd Cochise Co record (KR) -- 1st by M. J. Smith, 1981. Ancyloxypha arene, common, San Pedro River near Hereford, COCHISE Co, 20 Oct (KR). Polites mystic dacotah, first AZ record in Coconino Co in 1988; Four more colonies in southeastern Coconino Co (Clear Creek & Chevelon Creek drainages); and one colony in NAVAJO Co (Bear Springs) with flight period 18 May - 8 July (KR). Atrytonopsis lunus, canyon W of Peña Blanca Lake, Santa Cruz Co, 1-2

Aug (CDF). A. vierecki, 1 mi NW of Seneca, GILA Co, 25 May, EARLY (KR). Amblyscirtes aenus, canyon W of Peña Blanca Lake, 1-2 Aug (CDF) and 3 mi SW of Patagonia, 22 Sept, LATE (JPB). A. oslari, 5 mi W of Peña Blanca Lake, 5 Aug, and Sycamore Cyn near Ruby, 20 Aug, both SANTA CRUZ Co (JPB) plus Carr Cyn, Huachuca Mtns, Cochise Co, 6 Aug (JPB). A. nereus, canyon W of Peña Blanca Lake, 1-2 Aug (CDF) and Sycamore Cyn near Ruby, 20 Aug (JPB). A. elissa, Peña Blanca Lake, 1-2 Aug (CDF), 5 Aug (JPB). A. phylace, sympatric with A. fimbriata, Bootlegger Saddle, 8900', Chiricahua Mtns, Cochise Co (KR). Agathymus baueri freemani, lower canyon of Hualapai Mtns, Mohave Co, 2-4 Sept, EARLY (KD) -- previous earliest was 8 Sept 1968. Battus philenor, collected in the Harquahala Mtns S of Aguila, Maricopa Co, 18 March (WLS) and observed for 35 mi along Hwy 60 between Hope, Mohave Co and Aguila, Maricopa Co, 18 March (WLS) -- its numbers and date in March indicate breeding populations rather than "strays." Aristolochia watsoni is the only known pipe-vine for this area according to two references (WLS). Anthocharis pima, Harquahala Mtns, 3.4, 3.8 & 5.7 mi S of Aguila, Maricopa Co, 18 March (WLS) -- reinforcing Oakley Shields' theory of hilltopping, only a single male on each of 3 well exposed hills (WLS). Phoebis sennae marcellina, Moquitch Spring, Kaibab Plateau, Coconino Co, 2 May -- EARLY for north & high elevation (KR). A single P. agarithe, Glendale, MARICOPA Co & NORTH, mid-Sept (VR) -- earlier records from Cochise, Greenlee, Pima, Pinal & Santa Cruz Cos (RAB, RLL). Atalides halesus estesi, 5.7 mi S of Aguila, Maricopa Co, 18 March (WLS) -- earliest recorded in season was 23 Jan 1972. Ministrymon leda, widely distributed in the White Mtns of Apache, Greenlee and NAVAJO Cos, 5800'-9100', 25-28 May (KR). Incisalia eryphon, Dry Lake, GRAHAM Co, 14 April, EARLY (KR) -- previous earliest was 6 May 1967. Celastrina argiolus cinerea ovipositing on Ceanothus fendleri, Dry Lake Lookout, Graham Co, 14 April (KR). Agraulis vanillae incarnata, Glendale, Maricopa Co, 1988-89, many rearings on passion vine, the larvae with unusual lateral white stripes -- not mentioned, or shown in photos, in various publications (RR, VR). Speyeria nokomis nitocris & S. atlantis nausicaa, Greer, Apache Co, 27 July (YH, PMT). Also, S. a. nausicaa & S. mormonia luski, Greer, 2-3 Aug (RHL). Dymasia dymas chara, Sycamore Cyn SE of Patagonia, 31 July, and canyon W of Peña Blanca Lake, 1-2 Aug, both Santa Cruz Co (CDF). Larval aggregation of Nymphalis antiopa on isolated willow at 9120', HIGH, Greer, Apache Co, 27 July (YH, PMT). A single Marpesia petreus, residential area just off of the Arizona State Univ campus, Tempe, MARICOPA Co, & NORTH, 25 Aug 1983 (RR) -- earlier records from Cochise, Pima & Santa Cruz Cos. Megisto rubricata cheneyorum, canyon W of Peña Blanca Lake, 1-2 Aug (CDF). Cercyonis oetus charon, Greer and Nutrioso, Apache Co, 27 July (YH, PMT). Neominois ridingsii stretchii (=dionysus), Greer Lake, APACHE Co, 26 May, EARLY (KR) -- previous earliest was 6 June 1942, and previous counties were only Coconino & Yavapai (RAB checklist).

MOTHS: SPHINGIDAE - Sphinx istar, Manduca sexta, M. florestan, common, & M. rustica, common, Silver Creek W of Portal, Cochise Co, 4 Aug (CDF). M. rustica, at flood light, Osborn & 24th Streets, Phoenix, Maricopa Co, 11 Aug (JPB). Ceratomia sonorensis, Sphinx chersis, Smerinthus saliceti, Paonias myops, Pachysphinx occidentalis, Erinnyis domingonis, Eumorpha achemon & E. typhon, Sycamore Cyn, Santa Cruz Co, 1 Aug (CDF). Aellopos clavipes, Ruby Road, 3 mi W of Peña Blanca Lake, Santa Cruz Co, 19 Aug (JPB). SATURNIIDAE - Fresh female Automeris pamina in phone booth, Portal, Cochise Co, 5 Aug (CDF). Antheraea polyphemus oclea, Sphingicampa montana & Eacles oslari, Sycamore Cyn, 31 July, 1 Aug (CDF). SYNTOMIIDAE - Syntomeida hamponi, Sycamore Cyn SE of Patagonia, Santa Cruz Co, 31 July (CDF). ARCTIIDAE - Bertholdia trigona & Leuconopsis lurida, Pinery Cyn, Coronado NF, Cochise Co, 3 Aug (CDF). Opharis muricolor, Halisidota davisii & Euchaetes antica, Silver Creek, 4 Aug (CDF). Several morphs of E. antica in Sycamore Cyn, 31 July (CDF). NOCTUIDAE - Amphipoea senilis, Greer, Apache Co, 2-3 Aug (RHL). Gerra sevorsa & Gerrodes minatea, Silver Creek W of Portal, Cochise Co, 4 Aug (CDF). G. minatea & Eucirrhopterus gloveri, moderately common, Sycamore Cyn, Santa Cruz Co, 31 July (CDF). NOTODONTIDAE - Pseudhapigia brunnea & Cargida pyrria, Sycamore Cyn, 31 July (CDF). BOMBYCOIDEA - Gloveria arizonensis, G. gargamelle & Quadrina diazoma, Pinery Cyn, Coronado NF, Cochise Co, 3 Aug (CDF). APATELODIDAE - Apatelodes pufefacta, Silver Creek W of Portal, 4 Aug (CDF). GEOMETRIDAE - Eupithecia tenuata, Hualapai Mtn Park, Mohave Co, 4 Aug (RHL). E. dichroma and Nemeris sternitzkyi, Hualapai Mtn Park, 22 July (RHL). Elithis testata and Hydriomena bryanti (Rare!), Greer, Apache Co, 2-3 Aug (RHL). Biston cognataria, common, Pinery Cyn, Coronado NF, Cochise Co, 3 Aug (CDF). MEGALOPYGIDAE - Trosia obsolescens, Sycamore Cyn, Santa Cruz Co, 31 July (CDF). OLETHREUTIDAE - Rhyacionea jenningsi & OCEOPHORIDAE - Depressaria mova, both Hualapai Mtn Park, Mohave Co, 4 Aug (RHL). CHOREUTIDAE - Anthophila alpinella & GLYPHIPTERYGIDAE - Glyphipteryx montisella, both Greer, Apache Co, 2-3 Aug (RHL) -- Food-plants for montisella not listed in "Sedge Moths"; Sidalcea neomexicana (det by botanists at LACM) grows along the Little Colorado River (RHL).

CALIFORNIA. Contributors: JPB, LC, KD, TED, JFE, RK, RLL, RHL, JTM, JGP, GP, AMS, OS, WLS, PMT, JBV, and ADW. An even 20 new COUNTY records for butterfly species. No known county records given for moths, but several range extensions and rarities cited. The winter of 1988-89 was generally dry, although considerable precipitation in mid- to late-Dec, 1988 (RLL). Rain and snow in Mariposa Co, mid-Dec to early Jan, rest of Jan dry and warm (OS). Droughty thru Feb; A cold wave in early Feb produced record lows down to 19° F in Davis, 6-8 Feb, and down to -30° F in E slope valleys, such as Sierraville and Truckee (AMS). In Mariposa Co, 5-7 Feb, nights in teens to near 0° (OS). Down to 31° in San Francisco on 6 Feb, but much of the Bay Area warmed into the 60s before month's end, and into the 80s in Southern CA (RLL). March had double the 30 year monthly mean precipitation, ending the drought threat in Northern CA (AMS). Late Feb to mid-Apr with moderate rains in Mariposa Co (OS), whereas Central Coastal and Southern CA remained well below normal (RLL). Spring and early summer in the Bay Area had several unusually hot spells, broken by the usual windy, foggy periods (RLL). Summer generally cool in the Central Valley with atypical showery spells (AMS), but hotter than usual along the coast (RLL). Hot spells in Mariposa Co, June & July, but Aug unseasonably cool (OS). A devastating hailstorm at Donner Summit on 11 Sept virtually ended the butterfly season at higher elevations (AMS). The fringes of Hurricane Octave brought heavy and widespread rain and thunderstorms 16-19 Sept (RLL, AMS, OS). Oct to last week of Nov, sunny and warm, broken by moderate precipitation 24-25 Nov (RLL, OS), with early, heavy snow in the Sierra (AMS). No measurable moisture in December for the first time in over a century produced a few very LATE flight records (AMS). Previous all dry Decembers were 1883 in Reno, and 1876 in the Bay Area (RLL). If this winter is dry again, Southern CA will have had 6 drought years out of the past 7 -- 1986 being the slightly above normal "wet" year for Southern CA (JFE).

MIGRATORY SPECIES: Zerene eurydice migrated to the floor of the Sacramento Valley, single females found in riparian habitats - Willow Slough, Yolo Co, 5 April; Bobelaine Sanctuary, Sutter Co, 8 Aug; and West Sacramento, Yolo Co, 10 Sept (all AMS). Phoebis sennae marcellina, mouth of Cottonwood Cyn, S entrance to Joshua Tree Nat'l Mon, and Hayfield Dry Lake, S of Eagle Mtns, both Riverside Co, 31 March (JFE, GP). Libytheana bachmanii larvata, just one, observed perching on tall cholla cactus, Hemet, Riverside Co, 29 Jan, EARLY (JFE). Nymphalis californica - First hibernant 20 Feb, Jerseydale, 3500', Mariposa Co, fairly common 26 Feb - 15 March, last seen 3rd week of March -- no migration (OS); Common, Lopez Cyn, San Luis Obispo Co and on hilltops just E of Miranda Pine Road, Santa Barbara Co, 26 Feb, EARLY (KD); Seen on floor of Sacramento Valley (Sacramento Co, Yolo Co), 13 March (AMS); Hibernants in San Bruno Mtns, San Mateo Co, 22 March - 6 April (RLL); Hibernants in Napa Co (Butts Cyn, Angwin, Conn Dam), 8 April (RLL, PMT, D. Parkinson); Strong flight across Sacramento Valley began 16 May, a little earlier than usual (AMS); Fresh adults at Jerseydale by 5 May, extending to 31 May -- no migration (OS); New brood in large numbers, Del Puerto Cyn, Stanislaus Co, 17 May (PMT); A few fresh adults in San Bruno Mtns by 1 June, but no population buildup (RLL); Pondosa, Shasta/Siskiyou Cos, 17 July (JTM); Millions migrating southward across Donner Summit (Nevada/Placer Cos) on 10 Aug,

reaching Carson Pass (Alpine Co), 18 Aug, one of the biggest flights seen by AMS; Early migrants in San Bruno Mtns, 5, 16 Oct (RLL); Present at Jerseydale 15 Sept to 7 Nov -- no migration (OS); Singletons at Jerseydale 8, 25 Dec, unusually LATE (OS). Vanessa cardui - Worn adults in San Bruno Mtns, 21-31 March and abundant thru April, badly worn (RLL); first around Davis & Sacramento, 27 March, flight very good despite poor winter rains in desert (AMS); Mudpuddling, Del Puerto Cyn, Stanislaus Co, 17 May (PMT); A few at Jerseydale, 17, 31 May (OS); Fresh adults in San Bruno Mtns, 5 June, fair numbers until 17 Aug, last seen 5 Oct (RLL); Occasional at Jerseydale, early Oct to 17 Oct (OS). Danaus plexippus - Overwintering in Jefferson Park, residential Bakersfield, INLAND, Kern Co, 21, 29 Jan (KD); A few worn "flybacks," Bay Area, March - April (RLL); Occasionally seen at Jerseydale, Mariposa Co during June (OS); A fresh female 22 June, EARLY for fresh specimens, Kensington, Contra Costa Co, Berkeley XERCES count day (RLL); Best numbers in years in Northern CA, common and breeding all summer in the Sacramento Valley and the Sierran W Slope (AMS); A few at Jerseydale early Sept, very scarce by 17 Oct (OS); Very large numbers at Lagoon Valley, Solano Co, late Sept - Oct, drifting slowly westward (AMS); Later and fewer than usual autumn migrants in Bay Area, most in Oct (RLL); Seven seen at Fairfield-Suisun, Solano Co, 29 Dec, LATE (AMS).

BUTTERFLIES: Epargyreus clarus californicus, 15.6 road mi NW of Paskenta, 4500'-5000', TEHEMA Co, 1 July (RK). Thorybes pylades, 17 road mi NW of Paskenta, 5000', TEHEMA Co, 1 July (RK). T. diversus, Solomon Peak, 7400' and Last Camp Trail, E of Solomon Peak, 6800', SOUTH for Coast Range, TEHEMA Co, 4 July (RK). Erynnis tristis, Donner Pass, 7200', HIGH, Nevada Co, 18 June (AMS). E. persius, 18 road mi NW of Paskenta, 5000', TEHEMA Co, 27 July (RK). Pyrgus scriptura, Coyote Creek Riparian Station, Alviso, Santa Clara Co, 25 June (J. Caldwell, RLL, J. Steiner, others, South Bay XERCES count day). E. communis, Suisun City, Solano Co, 12 Feb, EARLY & Davis, Yolo Co, 31 Dec, very LATE (AMS). Pholisora catullus, Corning, 1 July (RK) -- 2nd Tehama Co record, 1st by S. Mattoon, 1986. Hesperopsis libya ssp, McKittrick, Kern Co, 9 Sept, partial fall brood (JGP). Hylephila phyleus, Rancho Cordova, 26 March, EARLY for Sacramento Co (AMS), and Kensington, Contra Costa Co, 26 Dec, LATE (RLL). Polites sabuleti tecumseh, Mt. Whitney Trail at 11,400', Inyo Co, 10 Sept, fresh adults, LATE for such HIGH elevation (JFE). The generally coastal P. sonora siris again found well inland at Pondosa, Shasta/Siskiyou Cos, 17 July (JTM). New location for Ochloides yuma, Avawatz Mtns, 3 air mi WSW of Old Mormon Spring, 18 June (JFE, GP) -- 2nd San Bernardino Co record, 1st by KR. A stray female O. yuma, West Sacramento, YOLO Co, 11 Oct (AMS). Paratrytone melane, Oceano, San Luis Obispo Co, common in variety of habitats (residential, coastal dunes, creekbeds, fresh water marsh), 21 Sept (KD). Lerodea eufala, Upper Bon Tempe Reservoir, MARIN Co, 12 Sept 1981 (JBV) -- none reported for Marin Co since (RLL, JBV). A stray male L. eufala, SE of Cow Palace, Brisbane, SAN MATEO Co, 3 May (RLL) -- 41st butterfly species for San Bruno Mtns in 9 years of surveys. Population of tens of thousands of Panoquina errans, near Del Mar, San Diego Co, 28 Sept - 1 Oct (AMS); [known for years from this general area (Comstock, RLL, Martin, Powell, Thorne, others), but not noted before in such HIGH NUMBERS -- RLL]. Parnassius clodius "near baldur," several locations in Tehama/Trinity Cos, especially the Yolla Bolly Mtns - RK has details, and ssp sol at Mineral, 4800', Tehama Co, 9-12 July (PMT); [baldur populations intergrade into sol at lower elevations (RLL)]. Papilio zelicaon, six 1st instar larvae on leaves of cultivated Ptelea crenulata (Rutaceae), Hemet, Riverside Co, 31 May (JFE); Two reared to pupae on this host, dwarfed, however (JFE). P. zelicaon extremely abundant in an orange grove, Hwy 33, 2 mi N of Lerdo Hwy, Kern Co, 26 Aug (JGP). P. indra, Snow Mountain, BUTTE Co, 10 July (LC). P. cresphontes, Hemet, Riverside Co, 16 April, EARLY, plus several adults seen or collected almost daily on Lantana, 2 Aug - 15 Nov, LATE (JFE); Ova and larvae on several dates on Citrus and Ptelea crenulata, residential Hemet (JFE). P. eurymedon, ovipositing on a 4' tall Nectarine tree, Prunus persica var. nectarina, Meiners Oaks, Ventura Co, 26 June (TED); First instar larvae reared on Catalina Cherry, Prunus lyonii, for one week, then on Holly-leaved Cherry, Prunus ilicifolia; Only one survived, now in pupal diapause (TED). P. eurymedon, summit Black Mtn, Santa Clara Co, 16 July -- appeared to be nectaring on CA Poppy, Eschscholtzia californica (PMT). Pieris protodice, common, Carmel Valley near Garland Regional Park, Monterey Co, 14 July (ADW); it can be absent or extremely scarce for many successive seasons in the Coastal Ranges (RLL). P. occidentalis, Yolla Bolly Wilderness, 7000'-7863', Tehama/Trinity Cos, 3-6 July, SOUTH for Coast Range (RK). P. napi venosa, Lopez Cyn, San Luis Obispo Co, 26 Feb and 18 March -- extremely abundant, fully recovered from the disastrous 1985 fire (KD). 2nd brood, mostly white venosa, rare, Hidden Villa, 7 mi W of Los Altos, Santa Clara Co, 11-13 July (ADW). 2nd brood, mostly white P. napi microstriata (=castoria), Washington, Nevada Co, 11 July (AMS). Anthocharis cethura, summit Box Springs Lookout, 3040', Riverside Co, 19 March (WLS). Colias eurhytheme, Suisun Marsh, Solano Co, 29 Dec, LATE; and common at Rancho Cordova, Sacramento Co, 30 Dec, LATE (AMS). C. alexandra edwardsii, Sierra Valley, Sierra Co, 27 Aug, LATE -- NOT a 2nd brood (AMS). Fresh female Zerene eurydice on coastal dunes at Oceano, San Luis Obispo Co, 21 Sept (KD) -- an earlier dunes record from Sand City, Monterey Co, 24 June 1987 (RLL). Fresh male Z. eurydice on Lantana flowers, Hemet, Riverside Co, 11 Nov, LATE (JFE) & Thousand Oaks, near Arroyo Conejo, Ventura Co, 5 Dec, very LATE (JGP). Nathalis iole, W Mountain Drive near Cold Spring Cyn, Montecito, Santa Barbara Co, 29 May, 24 June, still present 3 Dec, LATE (JPB). The colonies reported last year by TED [see 1988 Zone 3] were not present. No N. iole observed anywhere in Ventura Co in 1989 (TED). Lycaena editha & L. xanthoides synchronous, Pondosa, Shasta/Siskiyou Cos, 17 July (JTM). L. xanthoides, Oak Creek Pass, Kern Co, 27 April, EARLY (KD) & 0.5 mi SW of Ides Cove, 7000', HIGH, TEHEMA Co, 27 July (RK). L. gorgon, 1 mi E of Tomhead Cpgd, 3000', 7 July (RK) -- 2nd record for Tehama Co, 1st by C. Hageman, 1986. A single female L. helleoides, Coyote Creek Riparian Station, Alviso, Santa Clara Co, 25 June (J. Caldwell, RLL, J. Steiner, others, XERCES count day) -- scarce around the South Bay for more than 2 decades (RLL). L. mariposa, Grassy Swale, Lassen Volcanic NP, SHASTA Co, 20 July (LC). One female Habrodais grunus, Donner Pass, 7200', HIGH, Nevada Co, 21 July -- 2nd record in 18 years (AMS) and Lang Crossing, South Yuba River, Nevada Co, 8 Oct, LATE (AMS). Atlides halesus estesi, Avawatz Mtns, 3 air mi WSW of old Mormon Spring, San Bernardino Co, 18 June (JFE, GP); Juniper Creek, 14 air mi S of Adin, LASSEN Co, 9 Sept (LC); and above Bon Tempe Reservoir, MARIN Co, 13 July 1978 (JBV) -- none reported previously, nor in the 80s (RLL). Satyrion tetra, Tomhead Cpgd, 3100', Slides Creek, 2800' & Harding Spring, 5500', all TEHEMA Co, 7-8 July (RK) & very common, Hidden Villa, 7 mi W of Los Altos, 11-13 July (ADW) -- usually scarce and few records for Santa Clara Co (RLL). Ministrymon leda, Avawatz Mtns, San Bernardino Co, NORTH for CA, 18 June with Mitoura siva (JFE, GP). M. johnsoni, Ides Cove, 7000', Tehama Co, 2 July (RK) & Jerseydale, 3500', Mariposa Co, 22 July (OS). M. spinetorum & Lycaeides melissa paradoxa, W of Homestead, off Hwy 14, Kern Co, 2 Sept, both LATE (JGP). Leptotes marina, female observed ovipositing on male flowers of Atriplex canescens (Chenopodiaceae!), Weldon, Kern Co, 19 April (JFE, GP) and locally abundant, West Sacramento, Yolo Co, 29 Oct (AMS). Everes comyntas, assoc/w Lotus purshianus, Conn Dam, 8 April (RLL, D. Parkinson) -- 2nd record for Napa Co, 1st by RK, in 1985. Euphilotes enoptes ssp, Hwy 280 in Hillsborough, San Mateo Co, 14 June (PMT) [Not typical of bayensis, smithi or tildeni (RLL)]. Glaucopsyche piasus, Castle Peak, 9000', Nevada Co, 24 July -- 2nd record (AMS). Icaricia lupini, N slope South Yolla Bolly Mtns, 6000'-7000', TEHEMA Co, 8 July (RK) and Mill Creek Falls, Lassen Volcanic NP, 12 Sept (LC) -- 2nd location & date for Tehama Co. Agriades rusticus podarce, in mid-elevation meadows, 6000', LOW, Grant Grove, 23 June plus Wilsonia, 10 July, both in Kings Canyon NP, Tulare Co (KD). Several Agraulis vanillae incarnata collected, Loma Verde subdivision, Ignacio, MARIN Co, 28 Sept 1968! (JBV) -- once common in NE Marin Co, in the late 60s (JBV), but none reported in the 70s or 80s (RLL). Speyeria coronis, mud puddling, Del Puerto Cyn, STANISLAUS Co, 17 May (PMT) -- INLAND for the generally more coastal nominate coronis; females common, Cañada Cyn, Carmel Valley, Monterey Co, 9 Aug (RLL). S. callippe liliana / rupestris, S. egleis, S. atlantis, Boloria epithore near sierra & Euphydryas

editha near colonia throughout the Yolla Bolly Mtns, Tehama/Trinity Cos, 1-27 July (RK). Thessalia leanira, 1 mi E of Tomhead Cpgd, 3000', Tehama Co, 7 July (RK). Melitaea hoffmanni, Mill Creek Falls, Lassen Volcanic NP, TEHAMA Co, 22 July (LC). Dymasia dymas imperialis, near mouth of Cottonwood Cyn, Riverside Co, 31 March (JFE, GP). Phycoides orseis & P. mylitta synchronous, Ponderosa, Shasta/Siskiyou Cos, 17 July (JTM). Euphydryas chalcedona quino, Scissors Crossing, San Diego Co, 23 March (PMT) -- there has been widespread fear that ssp quino was extinct, not having been seen in many years (JFE); My personal feeling is that there are still diapausing larvae around, but a certain % must die each year... (JFE). E. editha leustherae, again found at the Type Locality of Del Puerto Cyn, 17 May (PMT) plus a new colony near Sulfur Creek, Arroyo Bayo Road, SANTA CLARA Co, 17 May (PMT). Aglais milberti, desert side of the Tehachapi Mtns near Cameron Road turnoff, Kern Co, 27 April (KD). Polygonia oreas, Skyline Blvd at Grizzly Flat trailhead, 12 March (PMT) -- 2nd record for Santa Clara Co, 1st by JFE, 1984. Vanessa atalanta rubria, Mt Linn, 8092', TEHAMA Co, 2 July (RK). Basilarchia lorquini burrisoni, Bartle, Siskiyou Co, 17 July (JTM) -- SOUTH for ssp burrisoni. Cercyonis oetus, 10 mi W of Mineral, TEHAMA Co, 8-12 July (PMT) & Oeneis nevadensis at Mineral, 4800', 11 July (PMT).

MOTHS: SPHINGIDAE - Hemaris diffinis, Penny Pines area, Sunrise Hwy, Laguna Mtns, San Diego Co, 6 May (JGP). Hyles lineata, passing through the San Bruno Mtns, COASTAL, San Mateo Co, 1 to 5 June (RLL). SATURNIIDAE - Antheraea polyphemus, Jerseydale, 3500', Mariposa Co, 31 May, 1, 8 June (OS). Coloradia pandora, fresh to worn, Jerseydale, 10-28 Sept (OS). Hemileuca eglanterina, Penny Pines area, San Diego Co, 6 May, II to IV instar larvae common on Ceanothus -- adults emerged from pupae in Aug (JGP); Scarce and later than usual flight in the San Bruno Mtns, 15 Aug - 9 Oct (RLL). ARCTIIDAE - Hemihyalea edwardsii, residential Berkeley, Alameda Co, 10 Oct (RLL). Arachnis picta, both sexes common at lights, San Bruno Mtns, 2, 9, 13 Oct (RLL). NOCTUIDAE - Miodera stigmata, San Bruno Mtns, 5 Jan 1990, EARLY, after dry Dec (RLL). Oncocnemis wilsonensis, Pinyon Crest, Riverside Co, 2-3 Sept (RHL) plus an addition to the Pinyon Crest list of 25 years, Catabena vitrina. Prochloridea modesta madonna, Goodale Camp, south of Bishop, Inyo Co, 19 May (RHL). Autographa biloba, singletons, San Bruno Mtns, San Mateo Co, 21 March & 30 May -- first specimens in 9 years of surveys (RLL). Catocala californiensis, Bob's Gap, Mojave Desert, Los Angeles Co, 28 May (RHL). Litocala sexsignata abnormally abundant, most worn, Butts Cyn and N of Angwin, Napa Co, 8 April (RLL, D. Parkinson, PMT). PERICOPIDAE - Gnophaela vermiculata, Bartle, Siskiyou Co, 17 July (JTM). NOTODONTIDAE - Furcula nivea niveata, Pinyon Crest, Riverside Co, 2-3 Sept -- another addition to the 25 year list (RHL). GEOMETRIDAE - Nemoria punctularia, San Bruno Mtns, 9 Oct, LATE, often appears by mid - Aug (RLL). Animomyia nigris, Goodale Camp S of Bishop, Inyo Co, 19 May -- looks quite different from A. smithi, which flies in the same place in early July (RHL); [In the past, A. nigris was placed as a subspecies of A. smithi]. PYRALIDAE - Pyrausta dapalis assoc/w Salvia spathacea, summit San Bruno Mtns, worn by 16 Feb (RLL). COSSIDAE - Comadia henrici, Bob's Gap, Mojave Desert, Los Angeles Co, 28 May (RHL).

NEVADA: Contributors: J&FP. The Prestons spent 6 days in mid-July and 2 days in mid-August collecting in Nevada. The dryness of the area was noticeable and there were few clouds and little rain during their collecting periods. Expected species were collected or seen in the various localities visited although many species were noticeably absent from their territories at expected times because of earlier than normal flight periods. A total of 44 species or subspecies were collected or recorded during the 8 days the Prestons collected in Nevada, but only the most interesting are listed here. The complete list is available from J&FP on request.

MIGRATORY SPECIES: Nymphalis californica: Despite mass movements reported in AZ and CA, none were observed by the Prestons. Vanessa cardui was seen in the Jack Creek area of the Independence Mtns in Elko Co, but it was not at all common, July 15. Danaus plexippus, not observed or expected in mid-July, but was observed in mid-Aug along the Humboldt river.

BUTTERFLIES: Polites sabuleti sinemaculata, at the type locality, Baltazor Hot Springs, 5 mi west of Denio Jct, Humboldt Co, Aug 16. E. s. nigrescens, S of Secret Pass, Elko Co, Aug 17. Ochlodes sylvanoides bonnevillus, Humboldt River near Dunphy, Eureka Co, Aug 17. Colias alexandra ssp, Baltazor Hot Springs, Humboldt Co, Aug 16. Lycaena editha nevadensis, Wild Horse Crossing Cpgd area, Elko Co, July 14; Along Jack Creek Rd, NE of State Hwy 226, Elko Co, July 15. Harkenclenus titus immaculosus, along Jack Creek Rd, Elko Co, July 15. Satyrium fuliginosum, Corey Peak Rd, Mineral Co, July 12; Along Jack Creek Rd, Elko Co, July 15. Euphilotes battoides glaucon, Angel Lake, El 8200', Elko Co, July 17. Glaucopsyche piasus nevada, lower trail to North Schell Peak, El. 8000' to 10,000', White Pine Co, July 18. Lycaeides melissa fridayi, Corey Peak Rd, Mineral Co, July 12. Speyeria coronis snyderi, Angel Lake, El 8200', Elko Co, July 17. S. z. gunderi, common in all sites, Wild Horse Crossing Cpgd area, and along Maggie Summit Rd, Elko Co, July 14; Along Jack Creek Rd, Elko Co, July 15; Thomas Cyn, Ruby Mtns, Elko Co, July 16; Lower trail to North Schell Peak, White Pine Co, July 18. S. atlantis elko, 1 damaged female, Wild Horse Crossing Cpgd area, Elko Co, July 14. Euphydryas editha koreti, North Schell Peak, El 10,500' to 11,600', White Pine Co, July 18. Basilarchia archippus lahontani, Humboldt River, N of Battle Mountain, Lander Co, and Humboldt River near Dunphy, Eureka Co, Aug 17. B. weidemeyerii latifascia, Corey Peak Rd, Mineral Co, July 12; Wild Horse Crossing Cpgd area, Elko Co, July 14; Angel Lake, El 8200', Elko Co, July 17. Of special interest was the capture of a Basilarchia weidemeyerii x lorquini hybrid on the Corey Peak Road, Mineral Co, on July 12. Coenonympha tullia brenda, lower trail to North Schell Peak, White Pine Co, July 18. C. tullia elko, Jack Creek Rd, Elko Co, July 15; near Dunphy, Eureka Co, Aug 17. Cercyonis sthenele paulus, Wild Horse Crossing Cpgd area, Elko Co, July 14. Neominois ridingsii pallidus, mostly worn individuals, Corey Peak Rd, Mineral Co, July 12.

ZONE 4 ROCKY MOUNTAINS: ALBERTA, MONTANA, WYOMING, UTAH, COLORADO, and NEW MEXICO. Coordinator: Ray E. Stanford (RES). Due to unforeseen and unavoidable circumstances, the Zone 4 report did not reach the NEWS Editor until too late to be included in this issue. It will appear in the May/June issue, if possible.

ZONE 5 PLAINS: SASKATCHEWAN, MANITOBA, NORTH DAKOTA, SOUTH DAKOTA, NEBRASKA, KANSAS. Coordinator: Ronald Alan Royer (RAR). Contributors: Tanya Bray (TB), Rodney Breibach (RB), David Cook (DC), Larry Cook (LC), Neil E. Dankert (NED), Cheryl DeWaal-Malefy (CDM), Paul DeWaal-Malefy (PDM), Charles A. Ely (CAE), Ronald R. Hooper (RRH), Delise Kirkeide (DK), Paul Klassen (PK), John Kozial (JK), Doug R. Long (DRL), Steve Lucyk (SL via PK), Ellis G. MacLeod (EGM), Kevin Malo (KM via PK), Gary M. Marrone (GMM), Doug Meili (DM), Harold G. Nagel (HGN), Leon Nesja (LN), Timothy T. Orwig (TTO), Babs Padelford (BP), Loren Padelford (LP), Ken Pivnick (KP), Ernest C. Primmer (ECP), James M. Reiser (JMR), Richard C. Rosche (RCR), Lupe Rodehorst (LMR), Adam J. Royer (AJR), Jesse A. Royer (JAR), Glenn Salisbury (GS), Eric Schreiber (ES), M. D. Schwilling (MDS), Steve M. Spomer (SMS), Ray E. Stanford (RES), James Strand (JS), Ryan Strand (RS), John Weber, Jr. (JW), Steve White (SW fide GS), Stephen G. Williams (SGW). Abbreviations: c = collected; Cr = Creek; det = determined by; NP = National Park; nr = near; PF = Provincial Forest; Res = Reservoir; s = seen; SF = State Forest; SHP = State Historical Park; SP = State Park; SRA = State Recreation Area; WMA = Wildlife Management Area; > = more than. Capital letters indicate first records of occurrence.

SASKATCHEWAN. Due to drought conditions, lepidoptera were greatly reduced in numbers in the southern half of the province. Provincial Coordinator: RRH. Contributors: JK, KP. All records RRH unless otherwise noted.

BUTTERFLIES: Pholisora catullus, (second Saskatchewan record), Val Marie, 17 July (KP). Ancyloxypha numitor, Shoal Lake, NORTH, 7 July. Amblyscirtes vialis, Ile-a-la-Crosse, NORTHWEST, 14 June. Satyrodes eurymede, Netanai River (salt marsh north of the town of Hudson Bay), NORTH, 7 July. Megisto cymela, Togo, NORTH, 30 June. Coenonympha tullia inornata, Ile-a-la-Crosse, NORTH, 14 June. Erebia epipsodea freemani, Green Lake, NORTH, 13 June. Oeneis macounii, Ile-a-la-Crosse, NORTHWEST, 14 June.

MOTHS: Catocala antinympha, Bjorkdale, PROVINCE, 14 Aug (JK).

MANITOBA. Early spring was dry with near normal temperatures; June was cool and moist; summer was warm to hot and dry; fall was warm and dry. In southern agricultural areas most species (with certain exceptions noted below) were down in numbers, as in the past two dry years. This may be a result of the drought, but is probably also due to applications of insecticides, which are usually increased during dry periods: In other habitats in the southern half of the province, numbers generally were "normal," but a record number of forest fires may have caused local depopulation. It was an excellent year at Churchill, with all but one previously reported odd-year species (Vacciniina optilete) found common to abundant. There was one provincial record, Asterocampa celtis. Provincial Coordinator: PK. Contributors: SL, KM, RAR, EGM. Records not otherwise designated are attributable to PK.

MIGRATORY SPECIES: Vanessa cardui, no migration noted; few seen all season. There was a moderate migration of V. atalanta in June, but few were seen the rest of the season. A strong migration of Danaus plexippus, 15-30 June, produced only small to moderate numbers the rest of the season.

BUTTERFLIES: Thorybes pylades and Erynnis icelus, common in south; E. brizo and E. juvenalis, uncommon in south. E. martialis (usually rare in Manitoba), 6c, Sandilands PF, 14-15 June. E. lucilius, locally common, Northwest Angle PF, 24 July. E. persuis fredericki, uncommon at Riding Mountain, 9 June. Pyrgus communis, rare, Culross, where it had been locally common the past two years. P. centaureae freija, locally abundant on dry tundra, Churchill, 8-18 July (RAR). Pholisora catullus, reported for Manitoba by Klots, 1951, but no actual records were located till 7 Aug 1989, when one specimen was taken (and several seen) near Cromer (SL). Carterocephalis palaemon, relatively common in south. Ancyloxypha numitor, fairly common, Overflowing River, 4 July (RAR). Oarisma garita, uncommon, Pine Ridge, Elm Creek, Rathwell, Duck Mountains, Carberry, 14 June-15 July; fairly common, Roblin, 3 July (RAR). Hesperia uncas, uncommon, Deloraine and Coulter, 5-13 July. H. comma laurentina, uncommon, Milner Ridge and Brereton Lake, 14-15 Aug. H. leonardus, locally very common, Brereton Lake, 15 Aug. H. sassacus manitoboides, uncommon, Sandilands PF, 14-15 June. Polites peckius and P. themistocles, uncommon in south. P. mystic dacotah, common in south. Atrytone logan logan, locally common, Culross, 10 July. Poanes hobomok, abundant in south. Atrytonopsis hianna, locally common, Pine Ridge, 15 June. Amblyscirtes hegon, locally uncommon, Sandilands PF, 15 June. A. vialis, very common in south. Papilio machaon hudsonianus, one very worn male, Wekusko Falls, 6 July (AJR). P. kahli, (rarely taken in recent years), 1c (or s), Riding Mountain, 15 June. P. glaucus, abundant throughout its provincial range. Pontia occidentalis, abundant, Carberry, 17 July. Pieris napi, common, Churchill, 8-18 July (RAR); common, Wekusko Falls, 19 July (RAR); one female, The Pas, 10 July (RAR). Colias alexandra christina, uncommon, Duck Mountains, 14 July. C. hecla, 5 males, Cape Churchill, 13-16 July (RAR); one pair, Cape Churchill, 20 July (EGM). C. nastes moina, abundant, Churchill, 13-24 July (RAR, EGM). C. gigantea, common, Paint Lake, Wabowden, 7 July (RAR); abundant, Churchill, 8-24 July (RAR, EGM). C. gigantea mayi, one pair, Duck Mountains, 3 July (RAR); uncommon, Duck Mountains, 14 July. C. interior, uncommon, The Pas, 20 July (RAR). C. palaeno chippewa, common, Pisew Falls, 7 July (RAR); "swarming," Churchill, 8-24 July (RAR, EGM). Gaeides xanthoides dione, very common, Culross and Coulter, July 10-29. Epidemia epixanthe michiganensis, (few taken in Manitoba so far), locally abundant, Milner Ridge, 24 July. Harkenclenus titus, abundant, Carberry, 15 July. Satyrion edwardsii, locally abundant, Melbourne, 15 July. Lycaeides idas, two males, Wekusko Falls, 6 July (RAR). L. melissa, unusually common in south throughout season. Agriades franklinii, locally abundant along coast, Churchill, 14-24 July (RAR, EGM). Euptoieta claudia, uncommon. Speyeria callippe calgariana, (few taken in Manitoba until now), uncommon, Coulter, 29 June-13 July. S. atlantis hollandi, common, 18-20 July, Wabowden, Wekusko Falls & The Pas (RAR). Clossiana eunomia, common, worn, The Pas, 4 July (RAR); common, Wabowden, 6 July (RAR); abundant, Churchill, 8-18 July (RAR). C. frigga saga, locally common, Churchill, 8-18 July (RAR). C. polaris stellata, locally common on dry tundra, Churchill, 8-15 July (RAR). C. freija, locally common in taiga, Churchill, 8-10 July, but gone by 18 July (RAR). C. titania boisduvalii, locally abundant in taiga, Churchill, 10-24 July (RAR). C. titania grandis, common, Wekusko Falls, 19 July; common, The Pas, 20 July (RAR). Nymphalis vaualbum, common, Northwest Angle PF, July. Aglais milberti, very common in south during late summer. Asterocampa celtis, 1c, Souris, PROVINCE (KL), date unknown. Enodia anthedon, 1 male, Overflowing River, 4 July (RAR). Megisto cymela, locally abundant (in area missed by the fire that ravaged the surrounding forest), Elm Creek, 22 June. Erebia rossii ornata, uncommon, Churchill, 8-18 July (RAR). E. disa mancinus, locally common at Cowan, 9 June, and Sandilands PF, 14 June; very local and uncommon, Churchill, 8-18 July (RAR). E. discoidalis, uncommon, Churchill, 8-18 July (RAR). E. theano, swarming locally, Churchill, 15-24 July (RAR, EGM). Oeneis jutta ascerta, uncommon, Sandilands PF, 14 June. O. j. ridingiana, locally common, Cowan, 9 June (where it usually flies in even-numbered years only); uncommon, worn, The Pas, 4 July (RAR). O. j. harperi, locally abundant, Churchill, 8-18 July (RAR). O. melissa, locally common, Churchill, 8-18 July (RAR). O. polixenes, ubiquitous, abundant, Churchill, 8-18 July (RAR).

NORTH DAKOTA. The season began normally, with good rainfall during May. No state species records were tallied, although the dark morph of P. zelicaon was both collected and observed for the first time in the Killdeer Mountains (Dunn County), nominotypical Incisalia polia was discovered for the first time in McHenry County, and Asterocampa celtis also surfaced in McHenry County, well to the northwest of all previous records. Speyeria idalia appeared to be somewhat down in numbers. State Coordinator: RAR. Contributors: RB, DC, LC, DK, PDM, JAR, JS, RS. All RAR unless otherwise noted.

BUTTERFLIES: Pyrgus communis, 7 October, EMMONS Co (JS). Ancyloxypha numitor, common, McLEAN Co, 15 July (DC). Hesperia comma, one female, SHERIDAN Co, 19 Aug. Polites themistocles, McLEAN Co, 15 July (LC). Polites origenes, SHERIDAN Co, 20 Aug (DK). Papilio zelicaon nitra (dark), 1c, 1s, DUNN Co, 1s, Slope Co, 7 May. Pterourus glaucus, McLEAN Co, 1 June; WELLS Co, 16 Aug (DK). P. multicaudatus, BURLEIGH Co, 8 June (RS). Pontia protodice, SHERIDAN Co, 19 Aug (JAR). Pieris rapae, SHERIDAN Co, 19 Aug (DK); RICHLAND Co, 1 Sept (JW); EMMONS Co, 15 July (JS). Colias philodice, SHERIDAN Co, 19 Aug (JAR); WELLS Co, 22 Aug (DK); McLEAN Co, 13 July (RS). Colias eurytheme, OLIVER Co, 3 Aug (LC); SHERIDAN Co, 19 Aug (JAR); WELLS Co, 19 Aug (DK). Gaeides xanthoides, RICHLAND Co, 12 July (JW). Hylolycycaena hyllus, RAMSEY Co, 14 June (DK); McLEAN Co, 14 July (DC); SHERIDAN Co, 19 Aug. Epidemia helloides, McLEAN Co, 14 July (DC); SHERIDAN Co, 19 Aug. Harkenclenus titus, BURLEIGH Co, 2 July (DC); OLIVER Co, 2 Aug (LC). Satyrion calanus, MORTON Co, SOUTHWEST, 3 July (LN); abundant in eastern Killdeer Mountains, Dunn Co, 4 July (RB). Incisalia polia polia, McHENRY Co, (STATE for nominotypical sp.), 11 May (PDM); abundant by 13 May. Strymon melinus, BURLEIGH Co, 2 July (LC). Everes comyntas, 4 males, OLIVER Co, 3 Aug (LC). Glaucoopsyche lyqdamus, RAMSEY Co, 14 June (DK);

BURLEIGH Co, 18 June (DC). Lycaeides melissa, RAMSEY Co, 14 June (DK); SHERIDAN Co, 19 Aug (DK, JAR). Plebejus saepiolus, EMMONS Co, 15 July (JS). Euptoieta claudia, SHERIDAN Co, 20 Aug (DK). Phycoides tharos (includes pascoensis), RAMSEY Co, 15 June, SHERIDAN Co, 20 Aug (DK). Polygonia comma, OLIVER Co, 3 Aug (DC). Nymphalis vaualbum, BOTTINEAU Co, 29 Sept; MCHENRY Co, 12 July (CD); WELLS Co, 25 Aug (DK). Nymphalis antiopa, SHERIDAN Co, 20 Aug (DK). Aglais milberti, unusually abundant throughout northern counties, Aug/Sept. Vanessa atalanta, McLEAN Co, 13 July (RS); abundant late emergence, Bottineau Co, Aug/Sept. Basilarchia archippus, SHERIDAN Co, 3 Sept (DK). Asterocampa celtis, BURLEIGH Co, several taken, both sexes, 2 July (DC); two males, MCHENRY Co, NORTHWEST, 12 July (PDM). Enodia anhedon, McLEAN Co, 15 July (LC). Satyroides eurydice, BURLEIGH Co, 21 July (LC). Megisto cymela, McLEAN Co, 9 July (DC). Coenonympha tullia inornata, RAMSEY Co, 14 June (DK). Cercyonis pegala, McLEAN Co, 13, 15 July (RS, LC); SHERIDAN Co, 20 Aug (DK); EMMONS Co, 15 July (JS). Oeneis uhleri varuna, scarce throughout the western counties. Danaus plexippus, RAMSEY Co, 15 June (DK).

SOUTH DAKOTA. Dry conditions continued to plague central, south central and western Black Hills portions of the state, while the east and northwest received normal to above normal precipitation. Speyeria idalia, usually common on the prairie habitat near Pierre in July and August, was nearly absent this year. No state records were collected, although 141 county records were tallied, representing 45 butterfly species. Hesperia dacotae accounts for two of these county records, bringing the total for that species to 11 counties. An additional population was also located in Deuel County. The more significant county records are listed below. Although not first records, Vanessa annabella and Neominois ridingsii were both collected for only the second time in the state. State Coordinator: GMM. Contributors: PAO, TTO, ECP, SMS, RES, JW.

BUTTERFLIES: Pyrquus communis, Twin Brooks, GRANT Co, 4 Sept (JW); Beresford, UNION Co, 4 Sept (JW). Ancyloxypha numitor, below Oahe Dam, STANLEY Co, 9 Aug (GMM). Hesperia uncas, several observed and collected, CODINGTON Co, 3 July (GMM, ECP). H. leonardus pawnee, nr Richland, UNION Co, 9 Aug (TTO). H. dacotae, a large population, covering several hundred acres, Horseshoe Lake, CODINGTON Co, 3 July (GMM, ECP); Stransburg, GRANT Co, 2 July (GMM). Atrytonopsis hianna ssp., Badlands NP, PENNINGTON and SHANNON Cos, 28 May (GMM, PAO, RES). Euchloe olympia, nr Philip, HAAKON Co, 26 May (GMM, PAO, RES). Eurema mexicana, Iron Cr, nr Lakota Lake, CUSTER Co, 8 July (GMM). Mitoura siva, Badlands NP, JACKSON Co, 26 May (GMM, PAO, RES). Incisalia augustinus, Beaver Creek Campground, PENNINGTON Co, 23 May (TTO). Everes comyntas, Beresford, UNION Co, 4 Sept (JW). Celastrina argiolus, Badlands NP, SHANNON Co, 27 May (GMM, PAO, RES). Icaricia acmon, Badlands NP, JACKSON Co, 26 May (GMM, PAO, RES). Glaucopsyche lygdamus oro, Badlands NP, JACKSON Co, 26 May (GMM, PAO, RES). Clossiana bellona, Carthage, MINER Co, 13 Aug (GMM). C. selene myrina, Horseshoe Lake, CODINGTON Co, 2 July (GMM). Speyeria idalia, nr Hazel, HAMLIN Co, 1 July (GMM). Polygonia progne, Beaver Creek Campground, PENNINGTON Co, 23 May (TTO). Vanessa annabella, Deerfield Lake, Pennington Co, 28 July (SMS). Neominois ridingsii, Deerfield Lake, Pennington Co, 17 June (GMM).

NEBRASKA. State Coordinator: NED. Contributors: TB, DRL, HGN, PAO, BP, LP, JMR, RCR, LMR, SMS, JW.

MIGRATORY SPECIES: A large migration of Danaus plexippus (>100/hour) was noted in Sarpy Co, 9-10 Sept (BP, LP).

BUTTERFLIES: Staphylus hayhurstii, 1c, 2s, Camp Luther, COLFAX Co, 18 June (NED); 1c, nr Newcastle, DIXON Co, 19 June (NED, HGN, LMR); 2c, Basswood Ridge WMA, DAKOTA Co, 20 June (NED, HGN, LMR); 1c, 1s, nr Monowi, BOYD Co, 23 June (NED, HGN); 2 photographed, Fontenelle Forest, Sarpy Co, 30 July (JW). Erynnis baptisiae, 19c, >20s, Harlan Co Res, Harlan Co, 2 May (NED, LMR); 1s, Elwood Res, GOSPER Co, 20 Aug (NED); 1 photographed, Hover Prairie, Sarpy Co, 5 Aug (JW, det PAO). Hylephila phyleus, 2s, Schramm Park SRA, 20 Sept; 1s, Bellevue, 14 Oct, both Sarpy Co (BP). Hesperia ottoe, 2c, nr Monowi, BOYD Co, 23 June (NED, HGN); 6c, HOOKER Co, 14 July (RCR). H. leonardus pawnee, 1c, Elwood Res, GOSPER Co, 20 Aug (NED); 2c, 1s, nr Bristow, BOYD Co, 2 Sept (RCR). H. metea licinus, 1c, Harlan Co Res, HARLAN Co, STATE, 2 May (NED, LMR). Polites origenes, 1c, Grove Lake, ANTELOPE Co, 22 June (NED, HGN). Wallengrenia egeremet, 1c, Gallagher Canyon SRA, DAWSON Co, WEST, 23 July (NED, LMR). Pompeius verna, 1c, Basswood Ridge WMA, DAKOTA Co, 21 June (NED, HGN). Atrytonopsis arogos, 1c, nr Monowi, BOYD Co, 23 June (NED, HGN); 5c, HOOKER Co, 14 July (RCR). Poanes zabulon, 1 photographed, Neale Woods Nature Center, DOUGLAS Co, 6 Aug (JW); 1s, Fontenelle Forest, Sarpy Co, 4 Sept (BP). Poanes viator, 1c, nr Whitman, Grant Co, 14 July (RCR). Euphyes bimaculata, 25 c/s, nr Pleasanton, BUFFALO Co, 3 July (NED, JMR, SMS). Megathymus coloradensis, 1c, 2s, 5 mi NW of Paxton, KEITH Co, (extends known range ~100 mi WNW), 23 April (RCR). Heraclides crespontes, 1c, Basswood Ridge WMA, DAKOTA Co, 20 June (NED, HGN, LMR). Euchloe olympia, widespread, SARPY Co, 14-30 April (TB, BP, LP). Phoebis sennae, mating pair photographed, Neale Woods Nature Center, Douglas Co, 30 Sept (JW). Eurema lisa, 1 photographed, Indian Cave SP, Richardson Co, 16 Sept (JW); 1s, Hover Prairie, Sarpy Co, 12 Oct (BP). Feniseca tarquinius, 1s, Bellevue, Sarpy Co, 12 May (BP, LP). Harkenclenus titus, 1c, Buckskin State WMA, DIXON Co, 19 June (NED, HGN, LMR); 1c, nr Pleasanton, BUFFALO Co, 3 July (NED, JMR, SMS). Satyrium acadicum, 1c, 4 mi S of Lynch, BOYD Co, 23 June (NED, HGN). S. calanus, 1c, 2s, Basswood Ridge WMA, DAKOTA Co, 20 June (NED, HGN, LMR); 1c, 5 miles east of Winnebago, THURSTON Co, 20 June (NED, HGN, LMR). S. liparops, 1c, 1s, nr Monowi, BOYD Co, 23 June (NED, HGN). Calycopis cecrops, 1c, nr Ellsworth, SHERIDAN Co, late June (JMR). Mitoura grynea, 20-30c, 100's s, Harry Strunk Lake, FRONTIER Co, WEST, 7 May (DRL). Incisalia henrici, 1s, Fontenelle Forest, Sarpy Co, 20 April (BP). Leptotes marina, 1c, Ash Hollow SHP, Garden Co, 12 Aug (NED, LMR). Hemiargus isola, 1c, nr Hubbard, DAKOTA Co, 21 June (NED, HGN); 1c, Grove Lake, ANTELOPE Co, 22 June (NED, HGN); 2s, 7 miles SW of Pierce, PIERCE Co, 22 June (NED, HGN); 1c, nr Monowi, BOYD Co, 23 June (NED, HGN). Lycaeides melissa, 1s, Willow Creek, PIERCE Co, 14 Aug (TB, BP); 2s, Hover Prairie, SARPY Co, 12-13 Oct (BP). Clossiana bellona, 1c, nr Monowi, BOYD Co, 23 June (NED, HGN). Polygonia progne, 3c, Basswood Ridge WMA, DAKOTA Co, 20 June (NED, HGN, LMR). Junonia coenia, 1c, nr Hubbard, DAKOTA Co, 21 June (NED, HGN). Neominois ridingsii, 1c, Crescent Lake area, GARDEN Co, 26 May (JMR).

MOTHS: DREPANIDAE - Eudeilinia herminaria, 1c, 1s, Bassway Strip WMA, Buffalo Co, 8 July (NED). GEOMETRIDAE - Enconista dislocaria, 1s, Bellevue, Sarpy Co, 24 April, 8 May, 29 May (BP). SATURNIIDAE - Automeris io, 2c, 14 miles N of Johnstown, Brown Co, 24 June (NED, HGN). SPHINGIDAE - Sphinx chersis, 1c, in Kearney, Buffalo Co, 21 July (NED); 1c, in Holbrook, Furnas Co, 26 Aug (DRL). ARCTIIDAE - Hypoprepia miniata, 2s, Fontenelle Forest, Sarpy Co, 5 July (TB, BP, LP). NOCTUIDAE - Bomolocha abalienalis, 1c, nr Beatrice, Gage Co, 14 May, 1988 (NED). Phoberia atomaris, 6s, Bellevue, Sarpy Co, 2 April; 5s, 13 April (BP). Euclidia cuspea, 1c, in Kearney, Buffalo Co, 21 July (NED). Argyrostromia quadrifilaris, Bellevue, Sarpy Co, 8 Aug (BP, LP). Paectes oculatrix, 1s, Bellevue, Sarpy Co, 15 Aug (BP, LP). Agriopodes teratophora, 1c, Bassway Strip WMA, Buffalo Co, 8 July (NED). Perigea xanthioides, 1c, in Kearney, Buffalo Co, 6 June (NED). Ogdoconta cinereola, 1c, in Kearney, Buffalo Co, 23 May (NED). Plagiomimicus pityochromus, 1c, in Kearney, Buffalo Co, 2, 4 and 21 Aug (NED). Cerastis tenebrifera, 2s, Bellevue, Sarpy Co, 13 April (BP, LP). Schinia arcigera, male photographed nectaring on asters, Summit Lake Area, Burt Co, 17 Sept (JW). S. saturata, 1c, in Kearney, Buffalo Co, 14 Aug (NED). S. thoreau, 1c, in Kearney, Buffalo Co, 3 and 24 Aug (NED). S. trifascia, 1c, in Kearney, Buffalo Co, 21 and 24 Aug (NED). S. nundina, 1c, in Kearney, Buffalo Co, 14 Aug (NED).

KANSAS. Not a good year for butterflies. Weather was highly variable, with shifts of as much as 80° and 100°+ highs in late April, then near freezing temperatures into June. Wildflower concentrations were down. Work concentrated on the

collection of county voucher specimens, with 60 new county records added. On 20 July, in Stanton County, CAE found some extensive areas of whorled milkweed, good numbers of 23 species of butterflies, but just one new county record, bringing the county total to only 39. In its 105 counties, Kansas now averages 61.7 species per county, and there are 15 species on record from all counties. The more significant new records are listed. State Coordinator: CAE. Contributors: DM, GS, ES, MDS, SW (fide GS), SGW. All records are attributable to CAE unless otherwise indicated.

BUTTERFLIES: Staphylus hayhurstii, FINNEY Co, very rare and local in southwest, 23 July. Problema byssus, local in southeast, CRAWFORD, LABETTE Cos, 12 July. Battus philenor, Lyon Co, 22 Aug (SGW). P. troilus, Topeka, SHAWNEE Co, 22 Aug (SGW). Phoebus sennae, Topeka, Shawnee Co, 22 Aug (SGW). Eurema mexicana, CLOUD Co, 29 Aug (MDS). Feniseca tarquinius, OSAGE Co, 26 April (MDS). Mitoura grynea, ALLEN, CHEROKEE, LABETTE, WILSON, WOODSON Cos in southeast, 25, 26 April (MDS). Everes comyntas, STANTON Co, rare and local in southwest, 22 July. Agraulis vanillae, Ellis Co, 24 Sept (ES). Thessalia fulvia, HARPER Co, SOUTHEAST, 14 July. Adelpha bredowii, 1s, KIOWA Co (third modern sighting for state), 23 Sept (GS). Asterocampa celtis, rare and local in southwest, MORTON Co, 1 Sept. Cyllopsis gemma, Cherokee Co, 25 Oct (SW fide GS). Danaus gilippus, fairly common in southwest, Ellis Co, 28 Aug (DM).

MOTHS: Eupsilia vinulata, Chase Co, 22-23 Aug (SGW). Nemoria rubrifrontaria, Chase Co, 22-23 Aug (SGW). Thysania zebonia, PRATT Co (second state record), summer 1989.



ZONE 6 OKLAHOMA, TEXAS, ARKANSAS, LOUISIANA. Coordinator: Ed Knudson (ECK). Contributors: Chris Adams (CA); Steve Cary (SC); J. F. Doyle III (JFD); H. A. Freeman (HAF); Chuck Harp (CH); Jere Kuhn (JK); Michael Lafort (ML); Paul Opler (PO); Chuck Sekerman (CS); Ray Stanford (RS); Ann Swengel (AS); Jim Tuttle (JT); Steve Williams (SW). County in CAPS = new county record (based on information available to the coordinator); U.S. = new U.S. record. Abbreviations: bait = baited traps or trees; coll = collected by; Co's = counties; Cr = creek; MV = mercury vapor; NF = National Forest; NP = National Park; nr = near; NWR = National Wildlife Refuge; obs = observed; Ps = parish; Ps's = parishes; (sight) or (photo) = sight record or photograph, specimen(s) not collected; SNA = State Natural Area; SP = State Park; UV = ultraviolet; vic = vicinity; WMA = Wildlife Management Area. NOTE: In the TEXAS section, in the case of multiple county records from the same locality, the locality will only be listed once. For other reported species from the same localities, the county will be listed once only (including STATE records).

OKLAHOMA. Contributing: CH, SW. SW submitted a list of mainly butterflies, including several county records. CH sent in a list of Catocala spp, which include one new STATE record and several county records.

BUTTERFLIES: Epargyreus clarus, Achalarus lyciades, Pholisora catullus (PUSHMATAHA); Atrytone aroqos (PUSHMATAHA); Atrytone delaware; Polites themistocles; Phoebis sennae; Eurema lisa; Parhassius m-album (PUSHMATAHA); Everes comyntas (very abundant); Anaea andria; Agraulis vanillae; Phycoides tharos; Danaus gilippus (PUSHMATAHA); Cyllopsis gemma; Hermeuptychia hermes; all from Clayton, Pushmataha Co, 19 Aug (SW).

MOTHS: BLASTOBASIDAE - Glyphidocera lactiflosella, Clayton, Pushmataha Co, 19 Aug (SW). SPHINGIDAE - Manduca rustica, Spavinaw, Mayes Co, 19 Aug (SW). NOCTUIDAE - CH sent in a very impressive list of Catocala, including examples collected by Cecil Harp (CeH) and Robert Warren (RW). He listed 38 species having been taken in the state in 1989. All specimens collected by CH and CeH at bait, those from RW, method unspecified. Catocala innubens, McAlester, PITTSBURG Co, 18 June (RW); C. piatrix, Luther, Oklahoma Co, 19 July - 21 Oct (CH); C. consors, Luther, 31 May - 21 June (CH); C. epione, Lake Aluma (NE Oklahoma City), Oklahoma Co, 8-12 June (CeH), McAlester, 16 June (RW); C. judith, McAlester, 3 July (RW); C. ulalume, Luther, 5-18 July (CH), Lake Aluma, 8 July (CeH); C. dejecta, Luther, 16 June - 15 July (CH); C. insolabilis, Luther, 5-16 July (CH), McAlester, 4 July (RW); C. lacrymosa, Luther, 5-20 July (CH), McAlester, 30 June to 5 July (RW); C. nebulosa, Luther, OKLAHOMA Co, 21 June (CH); C. neogama, Luther, 20 June - 20 July (CH); C. ilia umbrosa, McAlester, PITTSBURG Co, 15 June (RW), Luther, 16-25 June (CH); C. junctura, McAlester, 8 June (RW), Luther, 15-17 June (CH); C. amatrrix, Luther, 8 July - 23 Oct (CH), McAlester, PITTSBURG Co, 6 Sept (RW); C. desdemona, Luther, 31 May (CH); C. delilah, Luther, dry, upland, post oaks, 31 May - 17 June (CH) & Lake Aluma, 8 June (CeH); C. illecta, Luther, 17 May thru 3 July (CH), and McAlester, 3 June - 14 July (RW); C. abbreviatella, Luther, 5 and 20 June (CH); C. nuptialis, 17 June - 9 July (CH); C. amestris, McAlester, PITTSBURG Co, 16 June (RW), Luther, 30 May - 20 July (CH); C. messalina, Luther, 31 May - 21 June (CH); C. louiseae, STATE, McAlester, PITTSBURG Co, 4 June (RW); C. andromedae, McAlester, PITTSBURG Co, 3 June (RW); C. herodias, Luther, 24 May - 9 June (CH); C. coccinata, Luther, 19 May - 10 June (CH), McAlester, 3-20 June (RW); C. ultronia, Lake Aluma, 29 May - 17 June (CeH); C. pretiosa, Luther, 17 May - 2 June (CH); C. mira, Luther, 30 May - 20 June (CH); C. titania, Luther, 31 May - 21 June (CH); C. alabamiae, McAlester, PITTSBURG Co, 8 June (RW), Luther, 7 June - 3 July (CH); C. clintoni, Luther, OKLAHOMA Co, 19 May - 6 June (CH), Lake Aluma, 4 June (CeH); C. similis, McAlester, PITTSBURG Co, 8 June (RW), Luther, 24 May - 19 June (CH); C. minuta, Luther, 26 May - 9 June (CH); C. connubialis, McAlester, 8 June (RW); C. lineella, Luther, 6-12 June (CH); C. McAlester, June (RW); C. jair, Luther, 10 June (CH), Lake Aluma, 13-17 June (CeH), McAlester, 8 June (RW).

TEXAS: Contributing: CA, JFD, HAF, ECK, JK, PO (with SC and RS), CS, AS, JT, SW. In 1989, Texas continued to suffer from drought conditions in the SW and extreme south, while in eastern Texas, rainfall was above normal. 160 butterfly species were reported statewide. About 150 new county records were reported, including several apparent range extensions. One species is reported tentatively as a new STATE and U.S. record. Several good reports on moths were received, including 20 new STATE records.

BUTTERFLIES: (reports by PO include SC and RS). Phocides palemon lilea, Anzalduas Park, Hidalgo Co, 8 Oct (JK); Epargyreus clarus, Burkeville, NEWTON Co, 1 Oct (CS), Daingerfield, MORRIS Co, and Bonham, RED RIVER Co, both 19 Aug (SW); Urbanus dorantes, Bay City, MATAGORDA Co, 12 Nov (CA); Chiooides catillus albofasciatus, MATAGORDA Co, 11 Nov (CA), Aransas NWR, ARANSAS Co, 13 Aug (SW); Chiooides zilpa, Brownsville, Cameron Co, 11 Oct (CS); Spatholepia clonius, Anzalduas Park, 8 Oct (JK); Erynnis funeralis, Nueces River, KINNEY Co, 10 Oct (JK); Thorybes pylades, 8.7 mi SW of Clairemont, KENT Co, 6 May (PO); Gesta gesta, Turkey Cr, TYLER Co, 4 Oct (CS); Chiomara asychis, Nueces River, KINNEY Co (JK), Kickapoo Caverns SP (JFD), both on 10 Oct; Celotes nesusus, 3 mi S of Texon, REAGAN Co & 6 mi N of McCamey, UPTON Co, both 5 May (PO); Copaeodes aurantiacus, KENT Co and 15.5 mi NW of Spur, DICKENS Co, plus 12 mi NE of Westbrook, MITCHELL Co, 6 May (PO); Pholisora catullus, ARANSAS Co, 13 Aug (SW), KENT Co, 6 May and 4 mi NE of Imperial, CRANE Co, 5 May (PO); Hesperopsis alpheus, CRANE Co, (obs ovipositing on Atriplex canescens, 12:30 CDT, courting, 12:40 CDT) and 4 mi SW of Grandfalls, WARD Co, 5 May (PO); Vidius perigines, Brownsville, 11 Oct (CS); Hesperia viridis, KENT, DICKENS, UPTON Co's, and 8 mi W of Roaring Springs, MOTLEY Co, plus 11 mi NE of Snyder, SCURRY Co, 5 and 6 May (PO); Atalopedes campestris, MOTLEY, SCURRY, and DICKENS Co's, 5 May (PO); Yvretta carus, Ft. Davis, Jeff Davis Co, 22 June (ECK); Atrytonopsis hianna, DICKENS, MOTLEY, SCURRY Co's, 6 May (PO); Wallengrenia egeremet, NEWTON Co, 1 Oct (CS); Poanes zabulon, Seabrook, HARRIS Co, range extension? 14 July (SW), and Garland, Dallas Co, 6 July, 30 Aug, and 19 Sept (HAF); Poanes yehl, Indian Village, POLK Co, 30 Sept (CS); Nastra l'herminier, Six Mile, SABINE Co, 30 Oct (CS), Galveston, GALVESTON Co, 23 July (SW); Nastra neamathla, Ganado, JACKSON Co, 22 July (SW); Amblyscirtes aenus, SCURRY, KENT Co's, 6

May (PO); A. nysa, KENT, MITCHELL Co's (PO); A. vialis, HARRIS Co, 10 June (SW); A. eos, SCURRY, CRANE Co's, 5 May (PO) & BRISCOE Co, 7 May (JK); A. oslari, MOTLEY Co, 6 May (PO); A. nereus, Ft. Davis, 22 June (ECK); A. celia, Falls City Park, KARNES Co, 9 April (JK); A. belli, Garland, uncommon this year, A. celia abundant (HAF); Panoquina sylvicola, San Antonio, Bexar Co, 15 Nov (JFD); P. panocuin, Aransas NWR, ARANSAS Co, 20 Apr (AS); Calpodus ethlius, MATAGORDA Co, 22 Oct (CA); Megathymus streckeri texanus, Crosbyton, CROSBY Co, (sight), 7 May (JK), and MOTLEY Co, 6 May (PO); M. coloradensis louisae, KINNEY Co, larva & pupa, 7 March, emerged 16-22 March (JK); Agathymus neumogeni carlsbadensis, Guadalupe Mts NP, Culberson Co, 21 Oct (ECK); Battus philenor, KENT, UPTON Co's, 5, 6 May (PO); B. polydamas, GALVESTON Co, 23 July (SW); Papilio polyxenes, REAGAN, SCURRY, WARD, CRANE, UPTON Co's, 5, 6 May (PO); Pterourus multicaudatus, KENT Co, 6 May (PO), and BRISCOE Co, (sight), 7 May (JK), plus Quanah, HARDEMAN Co, 2 June (SW); P. troilus, Wharton, WHARTON Co, 22 July (SW); P. palamedes, ARANSAS Co, 8 Apr (JK); Eurytides marcellus, Boykin Springs, JASPER Co, 1 Apr (ECK, with Mike Rickard); Pontia protodice, SCURRY, KENT, CRANE Co's, 6 May (PO) & STONEWALL, WILBARGER, CLAY, MONTAGUE, WISE, PARKER Co's, 28 May - 2 June (SW); Ascia monuste, Rockport, ARANSAS Co, 23 Apr (SW); Colias eurhythme, MOTLEY, DICKENS, SCURRY, KENT Co's, 6 May (PO); Zerene cesonia, DICKENS Co, 6 May (PO); Kricogonia lyside, KENT Co, 6 May (PO); Pyrisitia nicippe, DICKENS, KENT Co's, 6 May (PO); Nathalis iole, DICKENS, KENT, CRANE Co's plus 10 mi SE of Kermit, WINKLER Co, 5, 6 May (PO) plus Kent, CROSBY Co's, 4 July (SW); Atlides halesus, MATAGORDA Co, 28 Oct (CA); Parhassius m-album, Mayflower, NEWTON Co, 1 Oct (CS); Mitoura gyreus, DICKENS, MOTLEY, REAGAN Co's & Big Spring SP, HOWARD Co, 5, 6 May (PO); Fixsenia ontario, ARANSAS Co, 13 Aug (SW); Ministrymon leda, Ft. Davis, 22 June, abundant (ECK); Strymon melinus, DICKENS, MOTLEY, HOWARD, SCURRY, KENT, CRANE Co's, 5, 6 May (PO); S. serapio (?), Rio Grand Village, Big Bend NP, BREWSTER Co, (photo) 26 Apr (AS), U.S., STATE, [ECK NOTE: This was reported as "S. bebrycia," however, it is more likely serapio, which is quite similar below. Although not before reported in the S.S., serapio, is known to occur in this section of Big Bend NP]; Brephidium exile, WARD, CRANE Co's, 5 May (PO); Icaricia acmon, KENT Co, 6 May (PO) & nr Post, GARZA Co, 1 July (SW); Hemiarqus isolus, DICKENS, MOTLEY, SCURRY, KENT Co's, 6 May (PO); Leptotes marina, REAGAN, UPTON, WINKLER Co's, 5 May (PO); Apodemia walkeri, Brownsville, 10 Oct, (CS); Agraulis vanillae, UPTON Co, 5 May (PO); Dione iulia, MATAGORDA Co, 12 Nov (CA); Polygonia comma, Anahuac, CHAMBERS Co, range extension, 23 Sept (SW); Vanessa virginiensis, HOWARD Co, 5 May (PO); V. cardui, DICKENS, SCURRY, KENT Co's, 6 May (PO); V. atalanta, MOTLEY Co, 6 May (PO); Euptoieta claudia, SCURRY, DICKENS, MOTLEY Co's, 6 May (PO); Phyciodes tharos, KENT, DICKENS Co's, 6 May (PO); P. phaon, SCURRY Co, 6 May (PO); P. vesta, KENT, DICKENS Co's, 6 May (PO); Chlosyne definita, Rio Hondo, Cameron Co, 10 Oct (CS); C. janais, KINNEY Co, 10 Oct (JFD); Thessalia fulvia, UPTON, REAGAN, KENT Co's, 5, 6 May (PO); Poladryas minuta, BRISCOE, CROSBY Co's, 7, 11 May (JK), and KENT Co, 6 May (PO); Basilarchia archippus, SABINE Co & 30 Sept (CS), and Katy vic, WALLER Co, 4 Sept (SW), [who noted some examples appear to mimic A. vanillae (in appearance), rather than Danaus sp]; Eunica monima, Bentsen SP, Hidalgo Co, 5 Nov (CA); Marpesia petreus, Madero, Hidalgo Co, (sight), 12 Oct (CS); Anaea andria, ARANSAS Co, (photo), 20 Apr (AS); Asterocampa celtis, DICKENS Co, 6 May (PO); Megisto rubricata, DICKENS, MOTLEY, KENT Co's, 6 May (PO); Cyllopsis gemma, S. F. Austin SP, AUSTIN Co, 17 June (SW); Danaus gilippus, KENT, CRANE Co's, 6 May (PO); Danaus eresimus, Madero, 12 Oct (CS).

MOTHS: TINEIDAE - Acrolophus davisellus, Guadalupe Mountains NP, CULBERSON Co, STATE, 23 and 24 June (ECK). COSMOPTERIGIDAE - Stilbosis tesquella, Davis Mts SP, JEFF DAVIS Co, STATE, 22 June (ECK). OECOPHORIDAE - Martyringa latipennis, Six Mile, SABINE Co, STATE, 28 May (ECK). GELECHIIDAE - Dichomeris gelba, Guadalupe Mts NP, 31 July (coll David Wagner). CARPOSINIDAE - Bondia crescentana, Bouton Lake, JASPER Co, STATE, 1 Apr (ECK). COSSIDAE - Inguromorpha basalis, Coldspring, SAN JACINTO Co, 29 Apr (ECK); Toronia perplexus, Davis Mts SP, 22 June (ECK). TORTRICIDAE - Endothenia melanosticta, Guadalupe Mts NP, STATE, 23 June (ECK). ZYGANIDAE - Pyromorpha fusca, Guadalupe Mts NP, 30 July (ECK). LIMACODIDAE - Apoda biguttata, Tomball, Harris Co, 23 Aug (SW). PYRALIDAE - Crambus cyrilellus, Guadalupe Mts NP, 23 June (ECK); Chilo plejadellus, S. F. Austin SP, AUSTIN Co, 28 Apr (ECK); Salebriaria fasciata, Six Mile, SABINE Co, STATE, 28 May (ECK); S. carolynae, Coldspring, 29 Apr (ECK); Immyrta nigrovittella, Coldspring, 29 Apr (ECK); Diorcytria cambicola, Guadalupe Mts NP, 30 July (ECK). PTEROPHORIDAE - Qidaematophorus arion, Guadalupe Mts NP, STATE, 3 Sept (ECK). DREPANIDAE - Oreta rosea, Houston, Harris Co, 21 Nov (SW). GEOMETRIDAE - Stenoporia insipidaria, Tracheops bolteri, Guadalupe Mts NP, both STATE, 30 July (ECK); Anacamptodes vellivolata, Houston, 21 Nov (SW); Ixala desperaria, Carphoides incopriaria, Stergamataea inorata, Stamnodes fervefactaria, Prorella desparata, Guadalupe Mts NP, 3 and 4 Sept (ECK); Tetracis crocallata, Houston, 19 June (SW); Nemoria mimosaria, Bouton Lake, 1 Apr (ECK); N. rindgei, Guadalupe Mts NP, STATE, 23 June (ECK); Idaea bonifata, Guadalupe Mts NP, 30 July (ECK); Hydria prunivorata, Caripeta aretaria, and Episemasia solitaria, Six Mile, 13 and 14 March (ECK). MIMALLONIIDAE - Cicinnus melsheimeri, Kerrville, Kerr Co, 17 June (SW). LASIOCAMPIDAE - Tolyte glenwoodii, Guadalupe Mountains NP, STATE, 4 Sept (ECK). SATURNIIDAE - Hemileuca grotei, many 1st instar larvae on Quercus virginiana, 2 mi E of Bertram, Burnet Co, (no date) (JT); Automeris zephyris, Guadalupe Mts NP, 23, 24 June (ECK); Hyalophora gloveri, Guadalupe Mts NP, 29 July (ECK). SPHINGIDAE - Sphinx dollii, Xylophanes falco, Guadalupe Mts NP, 30 July (ECK); Smerinthus jamaciensis, Newton, NEWTON Co, 1 Oct (CS); Hyles lineata, Snyder, SCURRY Co, 30 May (SW). ARCTIIDAE - Daritis howardi, Guadalupe Mts NP, 30 July (ECK); Apantesis phalerata, Comanche, COMANCHE Co, 30 June (SW). NOCTUIDAE - Zanclognatha martha, Coldspring, 24 May (ECK); Melipotis cellaris, COMANCHE Co, 30 June (SW); M. jucunda, Aspermont, STONEWALL Co, 4 July (SW); Zale aeruginosa, Six Mile, common (bait), 14 March (ECK); Catocala ilia, CALLAHAN Co, 29 May (SW); C. texanae, Garland, (bait), 6 June (HAF); C. delilah, Garland, (bait), 1 June (HAF); C. desdemona, C. verrilliana, Davis Mts SP, (bait), 22 June (ECK); C. violenta, Guadalupe Mts NP, (UV), 4 Sept (ECK); C. crataegi, C. clintoni, Brazos Bend SP, Ft. Bend Co, (bait), 7 May (ECK); C. orba, lincolnana, grylenea, gracilis, alabamae, Six Mile (bait), 28 May (ECK); Nola triquetrana, Six Mile, 14 March (ECK); Acronicta hasta, STATE, & A. hamamelis, A. retardata, Six Mile, 28 May (ECK); A. edolata, Guadalupe Mts NP, STATE, 4 Sept (ECK); Elaphria georgii, Six Mile, 14 March (ECK); Lithophane querquera, STATE, L. signosa, Pyreferra pettiti, P. hesperidago, STATE, P. ceromatica, STATE, Orthosia rubescens, STATE, all Six Mile, (bait), 14 March (ECK); Chaetaqlaea sericea, Coldspring, STATE, 7 Jan, 26 Nov (ECK); Nephelodes minians, Houston, HARRIS Co, 21 Nov (SW); Eutolyte electilis, Cleveland, LIBERTY Co, 28 Feb (SW); Hexorthodes citeria, Davis Mts SP, 22 June (ECK); H. emmendata, Guadalupe Mts NP, 23 June (ECK); Setagrotis piscipellis, S. cinereicollis vocalis, Abagrotis trigona, Guadalupe Mts NP, all STATE, 24 June (ECK); Euxoa guadalupensis, Guadalupe Mts NP, 3 Sept (ECK); E. medialis, E. siccata, E. sculptilis, Guadalupe Mts NP, 21 Oct (ECK); Schinia florida, COMANCHE Co, 30 June (SW); S. jaguarina, CALLAHAN Co, 29 Aug (SW); S. mortua, Grotella parvipuncta, Guadalupe Mts NP, 30 July (ECK).

ARKANSAS. No reports!

LOUISIANA. Contributors: ML, SW. The report by SW includes records submitted to him by Frank Fischer Jr. and Frances Welden, indicated by (F&W). Several new PARISH records are included, but no STATE records.

BUTTERFLIES: Epargyreus clarus, Erynnis juvenalis, Pyrgus communis, Hylephila phyleus, Panoquina ocola, E Pearl River, St. Tammany Ps, 10 June (F&W); Ancyloxypha numitor, Lake Charles, Calcasieu Ps, 13 July (SW); Papilio polyxenes, Pterourus glaucus, P. troilus, Heraclides cresphontes, E Pearl River, 10 June (F&W); Pterourus palamedes, nr Lafayette, St. Martin Ps, 13 July (SW); Pieris rapae, Eurema lisa, E. nicippe, E Pearl River, 10 June (F&W); Ascia monuste, LAFOURCHE and JEFFERSON Ps's, April - June (ML); Calycopis cecrops, E Pearl River, 10 June (F&W); Brephidium

isophthalma, Cheniere, (Ps not given), 19 Aug - 4 Sept and 23 Sept - 29 Oct (ML); Euptoieta claudia, Phyciodes tharos, Vanessa cardui, V. atalanta, Basilarchia archippus, B. arthemis astyanax, E Pearl River, 10 June (F&W); Anthanassa texana seminole, LaRose, LAFOURCHE Ps, 16 Sept and 21 Oct (ML); Anaea andria, Lafayette, Lafayette Ps, 16 July (SW); Danaus plexippus, St. Martin & Acadia Ps's, 16 July (SW).

MOTHS: SATURNIIDAE - Automeris louisiana, Leeville, (Ps not specified), 2 & 20 Nov (ML); Anisota stigma, Actias luna, Hammond, Livingston Ps, 13 & 16 July (SW). SPHINGIDAE - Darapsa myron, Slidell, St. Tammany Ps, 13 July (SW).



ZONE 7 ONTARIO/QUEBEC. Coordinator: Ross Layberry. Contributors: R. L. Bowles (RB); Bob Curry; Hal Donly (HD); W. J. D. Eberlie (JE); W. M. M. Emmonds (WE); Tom T. Ikeda; Margo Holt & Nanch Ironside (MH); James Kamstra (JK); J. Don Lafontaine (JDL); Bill Lamond (BL); Jeff Larson (JL); John Morton (JM); Edward M. Peters; John Prideaux (JP); Duncan Robertson (DR); Alan Wormington (AW). Abbreviations: Distr = District; km = kilometer; Prov = Provincial; Twp = Township.

ONTARIO. BUTTERFLIES: Achalarus lyciades, Sandwich West Twp, Essex Co, 9 June, 9 July, 1988 (FIRST CANADIAN RECORDS) plus 29 June to 3 July, 1989, same individual seen three times (JL). Staphylus hayhurstii, Fish Point, Pelee Island, Essex Co, 12 Aug (JK). Erynnis icelus, Moosonee, Cochrane Distr, 25 June (JL). Pholisora catullus, 0.8 km S of West Brant, Brant Co, 7 June, 29 July (BL). Carterocephalus palaemon, Moosonee, 25 June (JL). Ancyloxypha numitor, New Liskeard, Timiskaming Distr, 17 Sept (SECOND DISTRICT RECORD), very late for such a northern locality (AW). Thymelicus lineola, Point Pelee, 1 August, second generation (AW). Polites themistocles, Moosonee, 25 June (JL). Wallengrenia egeremet, Point Pelee, 14 August (LATE) (AW). Pompeius verna, 1 km NNW of Glen Morris, Brant Co, 2 July (BL). Poanes viator, 2.6 km W of Smooth Town, Brant Co, 8 July (BL). Euphyes dion, Caistorville Woods, Lincoln Co, 9 July (BL). Euphyes bimacula, Brunet Park, Windsor, Essex Co, 10 July (FIRST RECORD FROM WINDSOR AREA) (JL). Amblyscirtes vialis, Matchedash Twp, Simcoe Co, 6 July (MH). Papilio machaon, Moosonee, 20, 25 June (JL). Papilio cresphontes, 2.7 km W of Smooth Town, Brant Co, 19 Aug; 3.7 km WNW of Campden, Lincoln Co, 15 Aug (BL). Papilio glaucus canadensis, abundant at Moosonee, 20 June (JL). Pieris napi, Moosonee, 25 June (JL). Colias philodice, Point Pelee, 13 Nov (LATE) (AW). Colias eurytheme, Shipsands Island, NE of Moosonee, 19 Sept (AW). Colias pelidne, Moosonee, 25 June (JL). Colias interior, Moosonee, 24 June (JL). Epidemia epixanthe, near Severn Falls, Simcoe Co, 12 July; Hardy Lake Bog, Muskoka Co, 31 July (RB); Copetown Bog, Wentworth Co, 17, 18 July (BL). Epidemia dorcas, Taylor Lake, Waterloo Co, 12, 23 July (BL). Incisalia augustinus, Everes amyntula, Procllossiana eunomia, Clossiana frigga, C. freija, Chlosyne nycteis, Polygonia gracilis, Moosonee, 25 June (JL). Speyeria atlantis, Abitibi Canyon, Cochrane Distr, 18 Sept, very late (AW). Phycoides batesii, 3.6 km NNW of Campbellville, Halton Co, 24 June (BL). Polygonia interrogationis, Point Pelee, 13 Nov (LATE) (AW). P. progne, St. Williams, Norfolk Co, 4 May (SECOND COUNTY RECORD) (AW); Caistorville Woods, Lincoln Co, 1 July (BL). Nymphalis vaualbum, Mouth of Pic River, Thunder Bay Distr, 8 May, about 20 migrating north along the shore of Lake Superior (AW); Awenda Prov Park, Simcoe Co, 22 July (JP). Limenitis arthemis asyanax, McNab Lake, Bruce Co, 30 June (RB). Asterocampa celtis, Fighting Island, Essex Co, 5 Aug (FIRST WINDSOR AREA RECORD) (JL). A. clyton, Ojibway Park, Windsor, Essex Co, 8 Aug (FIRST WINDSOR AREA RECORD) (JL); N of London, Middlesex Co, 2 Aug (FIRST COUNTY RECORD) (JK). Lethe appalachia, 1.8 km SW of Abingdon, Lincoln Co, 15 July (BL). Danaus plexippus, seen flying south in Essex Co and at Cobourg, Northumberland Co, 29 Oct (JE); a tagged specimen, released in Toronto on 8 Oct, was found on a Lake Ontario beach in Jefferson Co, New York, due South of the release spot, on 23 Oct (WE).

MOTHS: Atteva punctella, Leamington, Essex Co, 25 Aug (AW). Agrius cingulatus, (2), Point Pelee, 17 Aug (AW). Sphinx emeritus, (2), Hillman Marsh, Essex Co, 24 July (AW). Sphinx canadensis, Coe Hill, Hastings Co, 21 and 22 July (HD). Hyles euphorbiae, Coe Hill, Hastings Co, 22 July (FIRST RECORD away from introduction site in Renfrew Co) (HD). Furcula occidentalis, Kingston, Frontenac Co, 21, 26 May, 13, 25 July (DR). Apantesis vittata, Point Pelee, 21 Aug, Hillman Marsh, 16 Aug (AW). Trichoplusia oxygramma, Pike Lake, Manitoulin Island, 21 Sept (JM). Pseudoplusia includens, (2), Ottawa, 1 Oct (JDL). Acronicta quadrata, Misery Bay Bog, Manitoulin Island, 5 July (JM). Iodopepia u-album, (3), Misery Bay Bog, 4 July, FIRST CANADIAN RECORD (JM). Plagiomimicus ptychromus, Hillman Creek, Essex Co, 16 Aug (AW). Spodoptera ornithogalli, (10), Point Pelee, 2 Oct (AW). Brachionycha borealis, (2), Pike Lake, Manitoulin Island, 26, 28 April (JM). Euxoa manitobana, (5), Michael Bay, Manitoulin Island, 13 July (JM). Heliothis borealis, (2), Rainy River, 4 June (AW). Schinia arcigera, (3), Huntsville, Muskoka Co, 2-14 Aug (DR).

QUEBEC. All records are from Edward M. Peters, from Lourdes-de-Blanc-Sablon, Saguenay County, near the Quebec/Labrador border (51.23°N, 57.12°W), 26 June.

BUTTERFLIES: Pieris napi, Colias pelidne, Agriades franklinii, Procllossiana eunomia, Oeneis ?bore taygete, Oeneis jutta, Oeneis polixenes.

MOTHS: Gynaephora rossii, Hada sutrina, Lasionycta taigata.



ZONE 8 MIDWEST: MISSOURI, KENTUCKY, WEST VIRGINIA, OHIO, INDIANA, ILLINOIS, IOWA, MINNESOTA, WISCONSIN, MICHIGAN. Coordinator: Leslie A. Ferge (LF). Contributors: Thomas J. Allen (TA), George Balogh (GB), Larry E. Becker (LEB), Jim Bess (JB), Bill Boscoe (BB), Tanya Bray (TB), John V. Calhoun (JVC), Thomas W. Carr (TWC), Charles V. Covell (CVC), Dave Cuthrell (DC), David Eiler (DE), Don K. Ennis (DKE), Horatio T. Enterline (HTE), Carol Ferge (CF), John Fleckenstein (JF), Richard Fleming (RF), Loran D. Gibson (LDG), J. Michael Gilligan (JMG), Todd M. Gilligan (TMG), Alex Grkovich (AG), Ron Harms (RVH), Richard A. Henderson (RAH), Ted Herig (TH), David J. Horn (DJH), David C. Iftner (DCI), Charles C. King (CCK), Harry King (HAK), Ron King (RK), Hugo Koth, Jr. (HK), Bob Leary (BL), Eric H. Metzler (EHM), Jim Mouw (JM), Jeff Nekola (JCN), Mogens C. Nielsen (MN), Tim Orwig (TTO), Barbara Padelford (BP), Loren Padelford (LP), James C. Parkinson (JCP), David K. Parshall (DKP), John Perona (JP), Joseph E. Riddlebarger (JER), Roy W. Rings (RWR), Dennis W. Schlicht (DWS), Clark Schultz (CS), Henri C. Seibert (HCS), Gerald Selby (GS), Ernest Shull (ES), Richard H. Smith (RHS), Ann Swengel (AS), Tim Vogt (TV), Richard L. Waldrep (RLW), John Weber Jr. (JW), William Westrate (WW), James R. Wiker (JRW), Stephen G. Williams (SW), Donald J. Wright (DJW), Roger A. Ziebold (RAZ). **GENERAL COMMENTS:** No unusual weather conditions were reported. Adequate rainfall occurred in most areas, however, water levels in marshes and bogs are still low, slowly recovering from last year's drought. Pontia protodice was seen in most of the area it moved into last season, but in generally lower numbers. Populations in some northern areas apparently failed to survive the winter, as only one record was noted in Michigan (GB), while none were seen in the southeastern Wisconsin localities where it occurred commonly last year (LF). The movement of migrant butterfly species northward was notable this season, with a number of infrequently encountered species reported. Phoebis sennae was seen in many south-central Illinois counties (JRW), western Kentucky (CVC), Iowa (BP, SW), Indiana (ES), and West Virginia (TA). Nathalis iole extended northward in closer proximity to the Mississippi

River, reaching southwestern Wisconsin in early July (CF, LF), and was found in northwestern Illinois and western Wisconsin through August (JCP, AS). Eurema lisa was not reported at all. A breeding population of Agraulis vanillae was found in Paducah, Kentucky (CVC), and one was sighted in West Virginia (DE). Euptoieta claudia moved far northward into Minnesota (AS), Wisconsin (CF, LF) and Michigan (JVC), Junonia coenia was seen in several Wisconsin localities (CF, LF, AS), and Anaea andria was recorded in Indiana (ES, RK) and Ohio (DKP). New county records are designated by county names printed in CAPITAL letters, and new state records by the STATE notation.

MISSOURI. BUTTERFLIES: E. clarus, C. gorgone, V. cardui, C. pegala and D. plexippus, 16 Sept, Atchison Co (photos, JW).

KENTUCKY. The following records were provided by CVC.

BUTTERFLIES: S. hayhurstii & N. lherminier, 17 June, Oldham Co. L. accius, 7 Oct, Fulton & McCracken Cos. P. vehl, 7 Oct, Fulton Co. P. glaucus, 12 Apr, Bullitt Co, two females with dark forewings and mostly yellow hindwings. P. virginensis, E. olympia, 12 Apr, Bullitt Co. E. sennae, 7 Oct, Fulton, Graves, McCracken Cos. E. nicippe, 15 Aug, Oldham Co. C. cecrops, 15 May, Jefferson Co. A. vanillae, 7 Oct, adults and larvae, Paducah, McCracken Co. B. arthemis astyanax male, found mating with B. archippus female, 7 Oct, Fulton Co. E. portlandia missarkae, 7 Oct, Fulton Co.

MOTHS: Tolype minta, 6 Oct, McCracken Co, STATE. Ceratonia hageni, Sphinx canadensis, Catocala angusi form lucetta, C. insolabilis, C. vidua, 9 Aug, Meade Co.

WEST VIRGINIA. TA reports that, with the help of cooperators, 69 new county records for butterflies were added in 1989. From an old collection, a new STATE record was found: Polites vibex, taken in KANAWHA County on 27 June 1976.

BUTTERFLIES: E. lucilius, 18 May & 25 Jul, Mineral Co (RHS, RLW). H. leonardus, 31 Aug, WYOMING Co (TA). H. cresphontes, 25 July, MINERAL, MORGAN Cos (RLW). P. sennae, 25 May, GREENBRIER Co; 25 June, POCAHONTAS Co (TA). H. hyllus, 6 Sept, CABELL Co (TA). S. edwardsii, 12 July, 4 Aug, HARDY Co (TA). S. caryaevorum, 4 Aug, HARDY Co (TA). S. liparops, 6 July, RANDOLPH Co (TA). C. cecrops, 31 May, Wayne Co (DE); 18 May, HARDY Co; 29 Aug, MONONGALIA Co; 6 Sept, CABELL Co (TA). C. neglectamajor, 26 June-7 July (larvae), HARDY, MONONGALIA, MONROE, PRESTON, SUMMERS Cos (TA). A. vanillae, 31 May, Boone Co (sight, DE). J. coenia, 6 Sept, CABELL Co (TA).

MOTHS: All (BB). Eacles imperialis, Citheronia regalis, Dryocampa rubicunda, Anisota stigma, Automeris io, Ceratonia amyntor, C. undulosa, Euparthenos nubilis, Catocala dejecta, C. coccinata, C. micronympha, 12 July, Braxton Co. Lymantria dispar, 12 July, Preston Co, many seen flying across highway.

OHIO. Reports were compiled by David K. Parshall (Butterflies) and Eric H. Metzler (Moths), from data contributed by members of The Ohio Lepidopterists.

BUTTERFLIES: A. cellus, 28 May, Gallia Co (JVC). S. hayhurstii, 11 Aug, Ross Co (DKP). E. icelus, 22 May, Washington Co (HCS). E. brizo, 23 Apr, Washington Co (JVC); 5 June, Lawrence Co (photo, AS). E. juvenalis, 23 Apr, MONROE Co (DCI). E. martialis, 28 May, Gallia Co (JVC). N. lherminier, 9 Aug, PIKE Co (DKP). A. numitor, 17 Aug, FULTON, Pike Cos (DKP). P. peckius, 1 June, WASHINGTON Co; 9 Aug, Pike Co (DKP). P. mystic, 8 June, Richland Co (DKP). A. campestris, 9 Aug, Pike Co; abundant Apr-Sept, Adams, Scioto Cos (DKP). E. zabulon, 29 May, Washington Co (HCS). E. dukesi, 11 July, CHAMPAIGN Co (DKP). A. vialis, A. hegon, 28 May, WASHINGTON Co (HCS). P. ocola, 29 Aug, LUCAS Co (TWC). H. cresphontes, 21 May, Greene Co (RWR); 9 Aug, Pike Co; 17 Aug, FULTON Co (DKP). E. marcellus, 23 Apr, MONROE Co (DCI); 27 May, CLINTON Co (RAZ); 4 June, Adams Co (sight, AS); 5 June, Lawrence Co (photo, AS). P. virginensis, 23 Apr, Delaware Co (JVC). Z. cesonia, 8 Aug, South Bass Island, OTTAWA Co (DJH); 2 Sept, CLINTON Co (RAZ). E. olympia, 23 Apr, MONROE Co (DCI). E. tarquinius, 23 Apr, MONROE Co (JVC); 5 Sept, CLINTON Co (RAZ); unusually abundant May-Sept, Adams, ROSS, Scioto Cos (DKP). H. titus, 7 May, Clermont Co (LEB). S. edwardsii, 18 July, HOLMES Co (DKP). S. liparops and S. caryaevorum, 11 July, Champaign Co (DKP). I. henrici, 23 Apr, Monroe Co (JVC). I. nippon, 22 May, Jackson Co (JVC); 28 May, WASHINGTON Co (HCS); 8 June, RICHLAND Co (DKP). E. ontario, 5 June, Lawrence Co (photo, AS). S. melinus, 7 May, Hardin Co (JMG, TMG). C. ebenina, 23 Apr, MONROE Co (JVC). E. claudia, 18 July, Holmes Co, common (DKP). E. phaeton, 8 June, KNOX Co (DKP). P. interrogationis, 28 July, CLINTON Co (RAZ). P. progne, 24 Apr, HANCOCK Co (JMG, TMG). N. vaualbum, 17 Apr, FAIRFIELD Co (CCK). N. antiopa, 23 Apr, MONROE Co (DCI). V. virginensis, 6 June, WOOD Co (DJH). J. coenia, 9 Aug, PIKE Co (DKP). A. andria, 22 Apr, Adams Co (DKP). A. celtis, 20 June, Guernsey Co (JMG, TMG). S. appalachia, 6 Jul, CHAMPAIGN Co (DKP). C. pegala, 16 July, CLINTON Co (DKP, RAZ). M. cymela, 16, 28 July, CLINTON Co (DKP, RAZ).

MOTHS: OECOPHORIDAE - Ethmia zelleriella, Antaeotricha schlaegeri and A. leucillana, 21 May, GREENE Co (RWR). Callima argenticinctella, 11 Aug, DELAWARE Co (TMG). TORTRICIDAE - Pandemis lamprosana, 7 June, FULTON Co (RWR). PYRALIDAE - Munroessa icciusalis, 18 July, HOLMES Co (RWR). Phlyctaenia coronata, 30 May, Fulton Co (RWR). Palpita magniferalis, 21 May, GREENE Co (RWR). GEOMETRIDAE - Enconista dislocaria, 8 July, GREENE Co (RWR). APATELODIDAE - Olceclostera angelica, 13 July, CLINTON Co (RAZ). SATURNIIDAE - Hemileuca maia, 18 Oct, MORGAN Co (JER). SPHINGIDAE - Manduca jasminearum, 17 July, CLINTON Co (RAZ). Dolba hyloeus, 6 July, ADAMS Co (DJW). Ceratonia hageni, 11 June, CLINTON Co (RAZ). Erinnyis ello, 24 Aug, South Bass Island, OTTAWA Co (DJH). ARCTIIDAE - Grammia oithona, Cycnia inopinatus, 26 May, ADAMS Co (DJW). NOCTUIDAE - Idia denticulalis, 8 June, ATHENS Co (HTE). Isogona tenuis, 30 May, FULTON Co (RWR). Cissusa spadix, 22 Apr, ADAMS Co (DJW). Zale undularis, 28 July, CLINTON Co (RAZ). Zale bethunei, 17 March, 6 July, ADAMS Co (DJW). Catocala robinsoni, 14 Sept, CLINTON Co (RAZ). C. insolabilis, 13 July, ATHENS Co (HTE); 18 July, HOLMES Co (RWR). C. illecta, 6 July, ADAMS Co (DJW) plus 10 July, ATHENS Co (HTE). Hypenodes fractilinea, 2 June, HANCOCK Co (TMG). Oxycilla malaca, 29 July, ADAMS Co (DJW). Nyctea frigidana, 17 March, ADAMS Co (DJW). Polychrysis morigera, 8 June, ADAMS Co (DJW). Thioptera nigrofimbria, 7 June, FULTON Co (RWR). Baqisara qulnare, 16 Aug, LICKING Co, STATE, reared from Napaea dioica (EHM). Acrionta spinigera, 7 June, CLINTON Co (RAZ). Oligia exhausta, 6 July, ADAMS Co (DJW). Hydroecia immanis, 2 Oct, ATHENS Co (HTE). Iodopepla u-album, 31 Aug, ADAMS Co (DJW). Basilodes pepita, 3 Aug, GREENE Co (RWR). Amolita fessa, 6 July, ADAMS Co (DJW). Xylena curvimacula, 25 Apr, FULTON Co (RWR). Lithophane semiusta, 11 March, FULTON Co, STATE (RWR). L. signosa, 25 March, FULTON Co (RWR). Eupsilia cirripalea, 14 Apr, FULTON Co (RWR). E. devia, 14 March, FULTON Co (RWR). Xystocephalus rufago, Feralia major, 17 March, ADAMS Co (DJW). Lacinipolia anquina, 26 May, ADAMS Co (DJW). Leucania lapidaria, 2 June, HANCOCK Co (TMG). Ufeus plicatus, 10 July, FULTON Co, STATE, unusual flight date (RWR).

INDIANA. BUTTERFLIES: A. lyciades, 9 June, LaGrange Co (DE, ES). S. hayhurstii, 8 Aug, Kosciusko Co (ES). P. communis, 21 Aug, Wabash Co (ES). A. campestris, 13 Sept, BROWN Co (ES). E. marcellus, Clark Co (RK); 24 June, Warrick Co (DKE). H. cresphontes, 9 June and 12 Aug, LaGrange Co (DE, RK). P. napi oleracea, 9 June, LaGrange Co (DE, ES), 2 July, Steuben Co (RK). P. virginensis, 20 Apr, Clark Co (RK). E. sennae, 24 Oct, Wabash Co (ES). E. nicippe, 8 Sept, Clark Co (RK). S. acadicum, 30 June, LaGrange Co (RK). S. caryaevorum, 7 July, Kosciusko Co (ES). C. cecrops, 27 Aug, Brown Co (RK). L. bachmanii, 1 July, Wabash Co (ES). E. phaeton, 23 June, LaGrange Co (RK); 28 June, Wabash Co

(ES). P. progne, 23 June, LaGrange Co (RK); 25 Oct, Wabash Co, at bait (ES). J. coenia, 14 Oct, Kosciusko Co (DE). A. andria, 8 Sept, Clark Co (sight, RK); 25 Oct, Wabash Co, on rotting pear (ES). E. anthedon, 30 June, 5 Sept, Wabash Co (DE, ES); 4 Aug, Brown, Clark Cos (RK). S. eurydice, 23 June, Steuben Co (RK); 28 & 30 June, Wabash Co (DE, ES).

MOTHS: Citheronia regalis, common in July at lights, Bartholomew, Brown, Monroe Cos (RK). Spingicampa bicolor, 22 July, Monroe Co (RK). Dryocampa rubicunda, common in June, Bartholomew, Monroe Cos (RK). Anisota virginiensis, 4 Aug, Monroe Co (RK). Callosamia angulifera, common in June, Monroe Co (RK). Manduca sexta, 22 June, Wabash Co (ES). M. jaminearum, 8 Aug, Monroe Co (RK). Zale horrida, 31 May, Wabash Co (ES). Catocala piatrix, 22 Aug, Wabash Co (ES). C. dejecta, 11 Sept, Wabash Co (ES). C. subnata, 19 July, Bartholomew Co (RK). C. relictata, 4 Sept, WABASH Co, STATE (ES). C. connubialis, 10-11 Sept, at bait, Wabash Co (ES). Papaipema inquaesita, 13 Sept, Brown Co (ES). Metaxaglaea inulta, 29 Sept, Fayette Co (DE). Schinia rivulosa, 13 Sept, Brown Co (ES).

ILLINOIS. BUTTERFLIES: S. hayhurstii, 8 Aug, Whiteside Co (photo, AS). N. herminier, 8-9 June, Johnson Co (photo, AS); 13 Aug, Pope Co (JRW). L. accius, 13 Aug, POPE Co (JRW). H. phyleus, 30 Aug, Lee Co (photo, AS); 18 Sept, 13 Oct, Mason Co (JRW). H. ottoe, 3 July, Winnebago Co; 16 July, Mason Co (JRW). H. leonardus, 18 Sept, Mason Co (JRW). H. metea, 16 May, Pope Co (JRW). P. mystic, 2 July, Cook Co (JRW). A. arogos, 16 July, Mason Co (JRW). E. byssus, 15-16 July, GRUNDY, Mason Cos (JRW). P. massasoit, 2, 23 July, Cook Co (JRW). E. viator, 15 July, Grundy Co (JRW). E. dion, 2 July, Cook Co; 15 July, Grundy Co (JRW). E. dukesi, 9 Sept, Union Co, first record in 12 years (JRW). E. conspicuus, 2, 23 July, Cook Co; 10 July, Will Co; 23 July, Lake Co (JRW). E. bimacula, 27 June, Will Co; 15 July, Grundy Co (JRW). A. hianna, 16 May, Pope Co; 29 May, Menard Co (JRW). A. aesculapius, 1, 17 May, 4 June, 29 July, JACKSON Co; 13 Aug, Pope Co (JRW). P. protodice, 8, 30 Aug, Carroll, Lee Cos (sight, AS). Z. cesonia, 16 July, 13 Oct, Mason Co (JRW). E. sennae, seen in many central and southern counties through 26 Oct (JRW). E. nicippe, 5 June, 26 Aug, 26 Oct, Jackson Co; 13 Aug, Pope Co (JRW); 9 June, Johnson Co (sight, AS). N. iole, 8 & 30 Aug, Carroll & Whiteside Cos (photo, AS). E. tarquinius, 30 Apr, Pope Co; 30 July, 26 Aug, Union Co; 6 July, Vermilion Co (JRW). G. xanthoides dione, 15 July, Grundy Co (JRW). E. helloides, 15 July, Grundy Co (JRW); 30 Aug, Carroll Co (photo, AS). S. acadicum, 27 June, 10 July, WILL Co; 2, 23 July, Cook Co (JRW). S. caryaevorum, 27, 30 June, MENARD Co (JRW). C. cecrops, 30 Apr, Pope Co; 9 Sept, Union Co (JRW). M. grynea, 16 May, Pope Co (JRW). I. henrici, 17 Apr, Menard Co (JRW). I. nippon, 15-16 May, Jackson, Pope Cos (JRW). S. melinus, 8 Aug, Lee Co (sight, AS); 30 Aug, Carroll Co (photo, AS). C. ebenina, 11 May, McDonough Co (JRW). S. aphrodite, 15 July, Grundy Co (JRW). S. idalia, 30 Aug, Lee Co (photo, AS). C. selene, 15 July, Grundy Co (JRW); 8 Aug, Lee Co (sight, AS). E. phaeton phaeton, 2 July, Cook Co; E. phaeton ozarkae, 4 June, Union Co (JRW); 8 June, Pope Co (photo, AS). E. creola, 3 June, 29 July, 26 Aug, Jackson Co; 29-30 July, 26-27 Aug, Union Co (JRW). S. eurydice, 26-27 June, 10 July, WILL Co; 2 July, Cook Co; 23 July, Lake Co (JRW). S. appalachia leeuwi, 2, 23 July, Lake Co (JRW).

MOTHS: All (JRW). **TORTRICIDAE** - Eucosma giganteana, 5, 22, 25 July and 1, 14 Aug, MENARD Co. **PYRALIDAE** - Compacta capitalis, 27 June, MENARD Co. **SATURNIIDAE** - Callosamia angulifera, 3 June, 29 July, Union Co. **SPHINGIDAE** - Agrius cingulata, 25-26 Aug, 9 Sept, 25-26 Oct, Union Co. Spinx frankii, 25 Aug, Union Co. Erinnvis ello, 26 Aug, Union Co. Eumorphia fasciata, 26 Aug, 9 Sept, Union Co. **ARCTIIDAE** - Grammia figurata, 29-30 May, Mason Co. G. arge, 13 May, MENARD Co; 5 Sept, Mason Co. **NOCTUIDAE** - Zale horrida, 24 May, MENARD Co. Catocala habilis, 25-26 Aug, Union Co. C. serena, 28 July, Union Co. C. robinsoni, 9 Sept (form missouriensis, 26 Aug), Union Co. C. angusi, 25-26 Aug, 9 Sept, Union Co. C. dejecta, 29 July, Union Co. C. maestosa, 26 Aug, 9 Sept, Union Co; 5 Sept, MASON Co. C. nebulosa, 29 July and 25 Aug, Union Co. C. cerogama, 16 Aug, MENARD Co; 9 Sept, Union Co. C. junctura, 26 Aug, Union Co. C. illecta, 30 June, 20 Aug, MENARD Co. Taraxidia semiflava, 16 Aug, MENARD Co; 29 June, Mason Co. Schinia thoreau, 14 Aug, MENARD Co. S. lucens, 5 July, MENARD Co.

IOWA. TTO compiled data from several contributors, and reported a dry season in western Iowa, particularly in the spring. Interesting discoveries included H. l. leonardus in the southern Loess Hills, new county records for the state-threatened E. olympia, and the continued expansion of L. m. melissa southward and eastward.

BUTTERFLIES: T. bathyllus, 16 Aug, CLINTON Co (TTO). S. hayhurstii, 1 June, LINN Co; 2 June, MARSHALL Co; 3 June, HARRISON Co; 12 June, STORY Co (DC); 17 June, LEE Co (JCN). E. martialis, 2 June, O'BRIEN Co (TTO); 3-4 June, HARRISON & Monona Cos (JCN). E. baptisiae, 16 Aug, CLINTON Co; 1 Oct, Plymouth Co (TTO); no date, POCAHONTAS Co (RVH). O. powesheik, 1 July, Dickinson, Howard & Kossuth Cos (sight/photo, AS); 2 July, Howard Co (JCN). H. ottoe, 4 June, Monona Co (JCN); 1 July, Dickinson Co (AS, RVH); 26 July, Fremont Co (BP, TB); 21 July & 1 Aug, Plymouth Co; 16 Aug, Clinton Co (TTO). H. leonardus leonardus, 2 Sept, MILLS Co (TTO); 2 and 18 Sept, Fremont Co (TTO, BP). H. leonardus pawnee, 26 Aug, SIOUX Co; 5 Sept, Monona Co (TTO). E. mystic, 22 June, Buchanan, BENTON Cos; 6 July, CERRO GORDO Co (JCN); no date, Pocahontas Co (RVH). P. verna, 1 July, SAC Co (DC); 21 July, PLYMOUTH Co (TTO). A. campestris, 27 Apr, Plymouth Co; 5 Aug, DUBUQUE Co; 2 Sept, FREMONT Co (TTO); 11 July, MONONA Co (DC, JF, TTO). A. arogos, 5 July, BLACK HAWK Co (DC); 7 July, O'Brien Co (JF, TTO); Hardin Co (DC); no date, POCAHONTAS Co (RVH). A. logan, 6 July, Floyd Co (JCN); 13 Jul, WRIGHT Co (TTO); 28 July, IDA Co (DC, TTO); no date, POCAHONTAS Co (RVH). P. zabulon, 16 Aug, CLINTON Co (TTO). P. viator, 19 July, PALO ALTO Co (RVH, TTO). E. dion, 13 July, POCAHONTAS Co (TTO); SAC Co (DC); 17 July, CALHOUN Co (DC); 18 July, CLAYTON Co (JCN); 28 July, IDA Co (DC, TTO). E. conspicuus, 8 July, Cherokee Co (TTO); 16 July, MARSHALL Co; 18 July, CLAYTON Co (JCN); no date, PALO ALTO Co (RVH). E. bimacula, 1 July, Dickinson Co (sight, AS); 14 July, SAC Co (DC); Pocahontas Co (RVH). A. hianna, 25 May, Fremont Co (BP, TB); 3 June, HARRISON Co (JCN); 16 June, Plymouth Co (TTO). A. vialis, 7 May, HARRISON, MONONA Cos (JCN, TTO). P. protodice, 25 May, Woodbury Co; 1 July, Howard, Kossuth Cos (sight, AS); 28 June, ADAIR Co (DC); 7 July, O'BRIEN Co (JF, TTO); 19 July, BUENA VISTA Co (TTO), PALO ALTO Co (TTO, RVH); 28 July, CRAWFORD, IDA Cos (DC, TTO); 16 Sept, Fremont Co (JW). E. olympia, 7 May, HARRISON, MONONA Cos; 10 May, SAC Co (DC); 12 May, LYON Co (TTO); no date, POCAHONTAS Co (RVH). P. sennae, 20 Aug, Hamilton Co (SW); 9 Aug, Harrison Co; 26 Aug, Pottawattamie Co; 16 & 18 Sept, Fremont Co (BP, JW). G. xanthoides, 25 June, SAC Co; 28 June, ADAIR, CLARKE Cos; 1 July, Kossuth Co (sight, AS); July, BLACK HAWK Co (DC); 6 July, CERRO GORDO Co; 16 July, MARSHALL Co (JCN); no date, Pocahontas Co (RVH). H. hyllus, 28 May, Monona Co (BP, LP); 3 June, HARRISON Co (JCN); 8 July, CHEROKEE Co (TTO); 26 Aug, Pottawattamie Co (BP). S. acadicum, 1 July, Howard Co (sight, AS); 7 July, HARDIN Co (DC); no date, POCAHONTAS Co (RVH). S. melinus, 7 May, HARRISON Co (TTO); 20 June, GUTHRIE Co (DC). H. isola, 9 June, SAC Co (DC); 17 June, LOUISA Co (JCN); 14 July, DUBUQUE Co (DWS, TTO); 1 Aug, Plymouth Co, 26 Aug, SIOUX Co (TTO); 1 July and 16 Sept, Dickinson Co (photo, AS & BP, LP). G. lygdamus, 14 May, WORTH Co (TTO); 30 May, Howard Co (JCN). L. melissa melissa, 3 June, HARRISON Co (TTO, JCN); 4 June, Lyon Co; 5 June, OSCEOLA, SIOUX Cos (JCN); 16 June, Plymouth Co (TTO). 1 July, Dickinson Co (AS, RVH); 13 July, Pocahontas Co (TTO); no dates, CLAY, PALO ALTO Cos (RVH). S. idalia, 29 June, ADAIR Co (DC); 1 July, Kossuth Co (sight, AS); 1 July, 16 Sept, Dickinson Co (sight, AS & BP, LP); 7 July, O'Brien Co (JF, TTO); 19 July, PALO ALTO Co (RVH, TTO); 16 Sept, Fremont Co (JW); no date, Pocahontas Co (RVH). C. selene, 4 June, Lyon Co (TTO, JCN); 18 July, Clayton Co (JCN). C. bellona, no date, POCAHONTAS Co (RVH). E. phaeton, 18-19 June, MUSCATINE Co; 6 July, Cerro Gordo Co (JCN). P. interrogationis, 21 July, PLYMOUTH Co (TTO). P. progne, 15 Apr, PLYMOUTH Co; 7 May, HARRISON Co (TTO); 17 June, LEE Co (JCN). N. vaualbum, no date, POCAHONTAS Co (RVH). J. coenia, 25 June, SAC Co (DC); 29 July, Harrison Co, 44 seen (BP, LP, TB). S. eurydice, 1 July, Dickinson, Kossuth Cos (sight, AS);

13 July, WRIGHT Co (TTO); 16 July, MARSHALL Co, 18 July, Clayton Co (JCN). C. tullia inornata, 4-6 June, Lyon Co (JCN, TTO).

MOTHS: All (JM) except as noted. SATURNIIDAE - Dryocampa rubicunda alba, 29 July, POTTAWATTAMIE Co. SPHINGIDAE - Sphinx eremitus, 5 July, FRANKLIN Co. S. drupiferarum, 5 June, larva on plum, HARDIN Co. Pachysphinx modesta, 5 July, Franklin Co. Eumorphia pandorus, 20 July, Hardin Co. E. achemon, 28 June, Hardin Co. Speocodina abbotti, 29 May, Hardin Co. ARCTIIDAE - Grammia virguncula, 29 May, Hardin Co. G. parthenice, 20 Aug, Cerro Gordo Co (SW). G. virgo, 25 July, Hardin Co. NOCTUIDAE - Catocala serena, 8 July, Hardin Co. C. judith, 18 Aug, Franklin Co. C. obscura, C. residua, C. ceroqama, 10 Aug, Franklin Co. C. relictata, 10, 23 Aug, FRANKLIN Co. C. parta, 17 Aug, Franklin Co. C. junctura, 15 July, Hardin Co. C. mira, 5 July, Franklin Co. C. minuta, 22 June, Hardin Co. Schinia thoreau, 20 Aug, Cerro Gordo Co (SW).

MINNESOTA. BUTTERFLIES: All butterfly records reported here are based on sightings or photographic slides. O. powesheik, 29-30 June, Lincoln, Lyon, Murray Cos (AS). H. ottoe, H. dacotae, 30 June, Lincoln Co (AS). P. viator, 11 July, Hubbard Co (JW). P. protodice, 29-30 June, Cottonwood, Lincoln, Rock Cos (AS); 2 Sept, Hubbard Co (JW). E. napi, 8 and 10 July, nectaring on hoary alyssum, Hubbard Co (JW). G. xanthoides, 30 June, Lincoln, Rock Cos (AS). H. hyllus, 30 June, Lincoln & Lyon Cos; 16 Aug, Lake Co (AS); 11 July, nectaring on hoary alyssum; 2 Sept, nectaring on white asters and Joe-Pye weed, Hubbard Co (JW). E. dorcas, 17 Aug, Cook Co (AS). S. liparops, 8-9 July, Hubbard Co (JW); 17 Aug, Cook Co (AS). P. faunus, 16-17 Aug, Cook, Lake Cos, many (AS). N. vaualbum, 7 July, 2 Sept, Hubbard Co (JW); 17 Aug, Cook Co, many (AS). E. claudia, 29-30 June, Cottonwood, Lincoln, Lyon Cos (AS). S. idalia, 30 June, Lincoln, Lyon, Pipestone, Rock Cos (AS). C. titania grandis, 16 Aug, Lake Co (AS). S. eurydice, 30 June, Lyon, Lincoln Cos (AS).

MOTHS: Estigmene acraea, 20 Aug, Freeborn Co (SW). Grammia virguncula, 8 July, Hubbard Co (JW). Eudryas unio, Eucirroedia pampina, 21 Aug, Carleton Co (SW).

WISCONSIN. Despite a rather cool spring, the emergence of most species was not greatly delayed, being a few days to a week later than last year. Populations of spring butterfly species in the northwestern counties were extremely low, likely a lingering effect of the severe drought in that area the previous two years. P. protodice continued to be found in much of the southern Wisconsin region it spread into last season, but in lower numbers. However, it apparently failed to survive the winter in the southeastern counties, as none were found at localities where it was common last year. A notable number of migrant butterfly species were recorded, including P. communis, H. phyleus, N. iole, S. melinus, H. isola, E. claudia, and J. coenia.

BUTTERFLIES: S. hayhurstii, 17 Aug, GRANT Co, STATE (JCP). E. martialis, 27-28 May, Burnett, WASHBURN Cos (LF). P. communis, 2 Sept, WAUKESHA Co (HK); 17 Sept, Crawford Co (CF, LF); 24 Sept, Sauk Co (AS). O. powesheik, 2, 21 July, Waukesha Co (CF, LF). H. phyleus, 8 July, 7 Aug, Grant Co (JCP, AS). H. comma laurentina, 15 and 16 Aug, BAYFIELD Co (photo, AS). H. ottoe, 3 and 25 July, Sauk Co and 2 Aug, Green Co, abundant (AS); 8 July, 7 Aug, Grant Co (JCP, AS); 8 July, Crawford Co (LF). H. leonardus leonardus, 15-16 Aug, BAYFIELD Co; 18 Aug, Burnett, JACKSON Co; 24 Aug-20 Sept, Sauk Co (photos, AS); 25-26 Aug, MENOMINEE Co (HK); 23 Aug, MARATHON Co (JCP). P. massasoit, 20 July, OUTAGAMIE Co (HK); 23 July, Kenosha Co (LF). P. viator, 23 July, KENOSHA Co (LF); 28 July, 10 Aug, OUTAGAMIE Co (HK). E. dion, 23 July, Kenosha Co (LF); 28 July, OUTAGAMIE Co (HK). E. bimaculata, 5 July, JACKSON Co (photo, AS). A. hegon, 3 June, Langlade Co (HK); 7 June, Marathon Co (JCP); 16 June, ONEIDA Co (LF, HK); 20 June, BAYFIELD Co (sight, AS). E. marcellus, 27 Aug, ADAMS Co (sight, TV). P. cresphontes, 1 June, 5 Sept, Sauk Co; 18 Aug, BURNETT Co (photo, AS); 9 Aug, GREEN LAKE Co (BL); 18 Aug, JACKSON Co (JCP); 2 Sept, Waukesha Co (HK). P. protodice, 4 June-26 Sept, Crawford Co (CF, LF, JCP); Grant Co (JCP); Green Co (AS); Marathon Co (JCP); Green Lake, MARQUETTE & Waukesha Cos (BL). E. napi oleracea, 29 June, OUTAGAMIE Co (HK); 1 Aug, Walworth Co (AS). P. virginiana, 3 June, Langlade Co (HK). N. iole, 8 July-17 Sept, Crawford Co (CF, LF, JCP); Grant, TREMPLEAU Cos (JCP); Sauk Co (AS). G. xanthoides dione, 8 July, Grant Co (JCP); 4, 10 July, Sauk Co (AS). E. epixanthe, 5 July, JACKSON Co (sight, AS); 12 July, BAYFIELD Co (photo, AS). E. helleoides, 23 July, Kenosha Co (LF); 1 Aug, Walworth Co; 8 Aug, Rock Co (AS). S. acadicum, 2 July-3 Aug, Jefferson, Sauk, and Walworth Cos (AS); Outagamie Co (HK); Waukesha Co (CF, LF); Winnebago Co, nectaring on Swamp Milkweed (CS). I. henrici, 21 May, Adams Co (JCP); 27 May, Burnett Co, more common than usual (LF, JCP); 28 May, Douglas Co (LF). S. melinus, 11 June, 11 Aug, OUTAGAMIE Co, WINNEBAGO Cos (HK); 13 June, SAUK Co (photo, AS); 18 July, JEFFERSON Co (sight, AS). H. isola, 29 June, GREEN LAKE Co (BL); 15 July, Sauk Co (sight, AS). L. idas nabokovi, 1 July, Marinette Co (JCP). L. melissa samuelis, 27 May, Eau Claire Co (JCP); 10 June, GREEN LAKE Co (BL); 19 June, Wood Co; 5 July, 18 Aug, JACKSON Co (AS). E. claudia, 4 June, Crawford & MONROE Cos (CF, LF); 11 June, GREEN LAKE Co (BL); 20 June, BAYFIELD Co (AS); 3, 13 July, Sauk Co; 2 Aug, Dane, Green Cos (sight, AS). S. idalia, 3, 15 July, Dane Co (sight, AS); 2 Aug, Green Co (AS). C. eunomia dawsoni, 17 June, Langlade Co (JCP); 20 June, BAYFIELD Co (photo, AS). C. gorgone carlota, 1 June-23 July, Winnebago Co, ovipositing on Helianthus giganteus and Ratibida pinnata (CS); 17-28 July, OUTAGAMIE Co (HK). C. harrisi, 18 June, Marathon Co; 1 July, Forest Co (JCP); 5 July, JACKSON Co; 12 July, ASHLAND Co (photos-AS). P. batesii, 16 June, Oneida Co (CF, LF, HK); 17 June, Burnett Co (CF). P. faunus, 27 May, BURNETT Co; 4 July, Marathon Co (JCP). J. coenia, 3 July-29 Aug, Iowa, Sauk Cos (AS); Kenosha, Rock Cos (CF). S. eurydice fumosus, 23 July, Kenosha Co (LF). E. discoidalis, 28 May, DOUGLAS Co (sight, JCP).

MOTHS: TORTRICIDAE - Eucosma giganteana, 10 Aug, Kenosha Co; 21 July, 11 Aug, Waukesha Co (LF). E. bipunctella, 9 June, Kenosha Co; 2 July, Waukesha Co (LF). SATURNIIDAE - Hemileuca sp. (wetland), 26 Sept, Marathon Co (JCP); 1 Oct, ADAMS, MONROE Cos (CF, LF). SPHINGIDAE - Sphinx poecila, 2, 21 July, WAUKESHA Co (LF). S. luscitiosa, 16 June, Oneida Co (LF). Hemaris gracilis, 16 June, Oneida Co (HK). NOTODONTIDAE - Heterocampa subrotata, 8 July, CRAWFORD Co (LF). Schizura badia, 11 Aug, Waukesha Co (LF). ARCTIIDAE - Lycomorpha pholus, 17 Sept, Grant Co (LF). Phragmatobia lineata, 2 July, WAUKESHA Co; 22 July, KENOSHA Co (LF). Grammia anna, 7 July, TREMPLEAU Co (JCP). Cycnia inopinatus, 11 Aug, WAUKESHA Co (LF). NOCTUIDAE - Macrochilo bivittata, 2 June-11 Aug, WAUKESHA Co (LF). Catocala praeclara, 26 July, Marathon Co (JCP). Tarachidia binocula, 29 June-10 Aug, Waukesha Co; 11 Aug, KENOSHA Co (LF). T. tortricina, 21 July, WAUKESHA Co, STATE (LF). Acontia aprica, 1 Sept, KENOSHA Co (LF). Crymodes burgessi, 1 Sept, KENOSHA Co (JCP). C. relicina, 5 Sept, DANE Co (LF). Luperina stipitata, 10 Aug and 1 Sept, KENOSHA Co; 1 Aug and 2 Sept, WAUKESHA Co (LF). Spartiniphaga inops, 1, 21 Sept, KENOSHA Co; 2 Sept, WAUKESHA Co, STATE (LF). Hypocoena enervata (det E. Metzler), 10 Aug, KENOSHA Co, STATE (LF). Papaipema cerina, 21 Sept, KENOSHA Co (LF). P. lysimachiae, 1 Sept, KENOSHA Co (LF). P. nepheleptena, 5 and 30 Sept, Dane Co; 21 Sept, KENOSHA Co (LF). P. appassionata, 3 Sept, MARATHON Co (JCP); 8 Sept, VILAS Co (LF). P. silphii, 2 Sept, WAUKESHA Co; 21 Sept, KENOSHA Co (LF, JCP). P. maritima (det E. Quinter), 21 Sept, KENOSHA Co, STATE (LF). P. sciata, 21 Sept, KENOSHA Co; 30 Sept, DANE Co (LF). P. beeriana, (det E. Quinter), 1 & 21 Sept, KENOSHA Co; 2 Sept, WAUKESHA Co, STATE (LF, JCP). Hydroecia stramentosa, 10 Aug, 1 Sept, KENOSHA Co (LF, JCP); 19 Sept, DANE Co (LF). Iodopepla u-album, 3 June, MONROE Co; 10 Aug, KENOSHA Co (LF). Trichordestra rugosa, 16 June, Oneida Co (HK); 17 June, LANGLADE Co; 1 & 26 July, MARATHON Co (JCP). Faronta rubripennis, 10 Aug, KENOSHA Co (LF). Tricholita notata, 1 & 21 Sept, KENOSHA Co; 2 Sept, WAUKESHA Co, STATE (LF, JCP). Eucoptocnemis fimbriaris, 21 Sept, KENOSHA Co (LF). Euxoa niveilinea, 21 Sept, KENOSHA Co (LF). Heliothis borealis, 27 May, BURNETT Co (CF). Schinia

indiana, 28 May, 3 June, Eau Claire Co (CF, LF, JCP). S. septentrionalis, 1 Sept, KENOSHA Co (JCP). S. jaguarina, 4 June, CRAWFORD Co (LF). S. oleagina, 11 Aug, WAUKESHA Co (LF). S. trifascia, 10 Aug, KENOSHA Co (LF).

MICHIGAN. MN reported a much cooler and wetter season than last year, with emergence of most species delayed 10 to 14 days, which continued well into the summer. Butterflies were down in numbers, possibly due to last year's drought. TH and MN concentrated on Catocala, finding numbers down from last year and baiting disappointing, but still recording 40 species, mostly at UV/MV lights. P. protodice, so abundant last year, was scarcely seen, and few southern migrants were recorded. Monarchs were more common this season.

BUTTERFLIES: E. persius, 20-28 May, Lake, Montcalm Cos (GB). C. palaemon, 11 June-1 July, Chippewa, Mackinac, Mecosta Cos (GB, JVC, DCI, MN). P. zabulon, 28 May & 12 Aug, Cass, St. Joseph Cos (MN). E. dukesi, 14 July to 3 Aug, Lenawee, Monroe Cos (JB, MN). E. bimacula, 2-4 July, Chippewa, Otsego Cos (LDG, TH). A. hianna, 4 June, Monroe Co (MN). P. polyxenes, 1 July, MACKINAC Co (TH). E. marcellus, 2 July, OTSEGO Co, stray (LDG). P. protodice, 9 Aug, Allegan Co, one female (GB). P. occidentalis, 29 June, MONTCALM Co, 2nd STATE (MN). I. irus, 4-28 May, Allegan, Lake & Montcalm Cos (GB, MN). I. eryphon, 3 July, Chippewa Co (LDG). E. epixanthe michiganensis, 3-26 July, Chippewa, Otsego Cos (LDG, MN). G. lydamus couperi, 1 July, Mackinac Co, late, ovipositing on alfalfa (TH, MN). L. melissa samuelis, Allegan, Lake, Muskegon, Newaygo Cos, 8 new colonies found (JB). C. mutica, 18 July, HILLSDALE Co (MN). N. vaualbum, 5 July-24 Sept, EATON, HILLSDALE Cos (RF, MN). E. claudia, 18 June, Chippewa Co (JVC). C. eunomia dawsoni, 11 June-1 July, Baraga, Chippewa and Mackinac Cos (JVC, AG, DCI, MN). C. frigga, 3-11 June, Baraga, Luce Cos (AG, TH, HAK). C. freija, 19-21 May, Dickinson, Iron Cos (TH, MN). S. appalachia leeuwi, 15 July, MIDLAND Co, range extension north (MN). N. mitchellii, 3-6 July, Berrien, Cass, Jackson, Kalamazoo Cos (JB, MN). E. discoidalis, 19-21 May, Dickinson Co (TH). O. chryxus strigulosa, 13-28 May, Houghton, Otsego, Newaygo Cos (GB, MN, JP). O. jutta ascerta, 11 June-4 July, Baraga, Chippewa, Mackinac Cos (JVC, AG, LDG, DCI).

MOTHS: OECOPHORIDAE - Ethmia monticola fuscipedeella, 24 June-12 Aug, Cass, Muskegon Cos (GB). YPONOMEUTIDAE - Yponomeuta atomocella, 23 June, Muskegon Cos, Dunes (GB). SESIIDAE - Paranthrene asilipennis, 23 May-15 June, Allegan Co (GB). Synanthedon rubrofascia, 16 June to 17 Aug, Kalamazoo Co (GB). S. pini, 4 July to 5 Aug, Allegan Co (GB). PYRALIDAE - Pyrausta laticlavia, Pryonapteryx nebulifera, 11 Aug, Muskegon Co, dunes (GB). GEOMETRIDAE - Nemoria bistriaria, 19 May, Newago Co (GB). Idaea eremiata, 10-24 June, dunes, sandy soils, Muskegon and Van Buren Cos (GB). I. violacearia (det C. V. Covell), 11-12 Aug, MUSKEGON Co, STATE (GB). Hydromenia bistriolata, 19 May, Newago Co (GB). MIMALLONIDAE - Lacosoma chirodata, Cicinnus melsheimeri, 23-24 June, Muskegon Co, dunes (GB). SPHINGIDAE - Dolba hyloeus, 7 July, Cass Co (MN). Ceratomia hageni, 19 July, 21 Sept, Cass Co (GB, MN). Smerinthus cerisyi, 21 July to 2 Aug, MONROE Co, range extension south (MN). Sphinx luscitiosa, 3 June, Luce Co (TH, HAK). NOTODONTIDAE - Heterocampa subrotata, 5 Aug, Cass Co (MN). NOCTUIDAE - Zale calycanthata, 12-18 May, Otsego Co (TH, MN). Catocala coelebs, 2 Sept (late), Otsego Co (MN). C. nebulosa, 25 Aug-21 Sept, Cass, Lenawee Cos (RAH, MN). C. semirelicta, 15-16 Aug, Mackinac Co (TH). C. amestris, 4-11 Aug, Barry Co (MN). C. dulciola, 8 July, Cass Co (MN). C. connubialis form pulverulenta, 21 July, Monroe Co (TH, MN). Syngrapha rectangula, 21 July and S. alias, 2 Aug, MONROE Co, range extension south (MN). Acronicta parallela, 11 Aug, Muskegon Co, dunes (GB). A. funerals form fuscalis, 22 July-2 Aug, Cass, MONROE Cos (MN). Apamea inordinata, 23 & 24 June, Muskegon Co, dunes (GB). Luperina stipata, 11 July to 13 Sept, Barry, Berrien, Cass, Jackson & Newago Cos (JB, RAH, MN). Oligia chlorostigma, 25 July, OTSEGO Co (MN). Meropon ambifusca, 26 Aug, Barry Co (RAH, MN). Spartiniphaga panatela, 3-11 July, Cass & Jackson Cos, fens (JB). Macronoctua onusta, 14 Oct, Cass Co (MN). Papaipema cerina, 30 Sept, Cass Co (MN). P. astuta, 21 Sept-14 Oct, Cass Co (RAH, MN). P. speciosissima, 13-24 Oct, Cass Co (MN, WW). P. rutila, 21 Sept-13 Oct, Cass Co (MN). P. silphii, 21-30 Sept, Jackson, Monroe, St. Joseph, Tuscola Cos (JB). P. beeriana, 21 Sept-3 Oct, Berrien, Jackson Cos (JB). Bellura densa, 4-11 Aug, Barry and Cass Cos (MN). Fagitana littera, 5 July, Jackson Co, fen (JB). Lithophane patefacta, innominata and lepida, 11-18 May, Otsego Co (MN). L. amanda, 11-27 May, Lake, Otsego Cos (GB, MN). L. thaxteri, 11-18 May, Mackinac and Otsego Cos (GB, MN). Egira alternans, 4 May, Allegan Co (MN). Oncocnemis riparia, 23 June-11 Aug, Muskegon Co, dunes (GB). Euxoa aurulenta, 23-24 June, Muskegon Co, dunes (GB). Eurois occulta, 10 Aug, Cass Co (JB). Metalepsis fishii, 4 May, Allegan Co (MN). Ufeus plicatus, 13 February, Ingham Co, 2nd STATE, overwintering in house (JB). Schinia indiana, 11 June, Montcalm Co (GB). S. bina, 28 May, Lake Co (visiting Lupine flowers); 11 June, Montcalm Co (GB).



ZONE 9 SOUTHEAST: ALABAMA, FLORIDA, GEORGIA, MISSISSIPPI, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE, VIRGINIA, BURMUDA. Coordinator: Andrew F. Beck. Contributors: We had quite a few this year, including a few new faces. They were Chris Adams (CA), Val Albu (VA), Dave Baggett (DB), Bill Boscoe (BB), Richard Boscoe (RB), John Calhoun (JVC), Daniel Callahan (DC), Charlie Covell (CVC), Terry Dickel (TSD), David Eiler (DLE), Robert Hardbarger (RJH), William Hark (WTH), John Kutis (JK), Sloten & Kutis (SK), Marc Minno (MM), Ann Swengel (ABS), Cal Schildknecht (CS), Dale Schweitzer (DS), Jeff Sloten (JS), Dave Winter (DW), and John Watts (JW). The noctuid identifications confirming national records were done by Morton Adams (MSA), John Franclemont (JGF), and Robert Poole (RWP). This was a good season for collecting in the southeastern part of the country. The weather was near normal, if slightly warm and dry, for the better part of the season. And then along came Hurricane Hugo. It will be interesting to see what effect, if any, the dramatic flooding, winds, and vegetation damage will have on the lepidoptero-fauna in the 1990 collecting year. One week after Hugo, I had 11 inches of rain fall in my backyard in 3.5 hours. Many of this season's records are from National Parks and other protected areas. In all cases, these are sight records, occasionally confirmed by photographs. All dates are 1989 unless otherwise indicated. Abbreviations: Co = County; CR = County Road; det = determined by; For = Forest; Mtns = Mountains; Nat = National; nr = near; NWR = National Wildlife Refuge; Pk = Park; Res = Reserve; Riv = River; Rt = Route; SRA = State Recreation Area; St = State; vic = vicinity of. County name in caps indicates a county record.

ALABAMA. BUTTERFLIES: All records Choccolocco Wildlife Management Area, Cleburne Co (RJH). B. philenor, 2 Apr, 11-17 June; P. troilus, 15 July, 27 Aug; E. marcellus, 11-26 Mar; F. midea, 11-18 Mar; C. philodice, 12-18 Mar; C. eurhytheme, 26 Mar, 21 Apr, 6-21 May; E. lisa, 27 Aug (only 2 seen); F. tarquinus, 21 May; H. titus mopsus, 24 June (only 1 pair seen); S. edwardsii, 29 May; I. augustinus croesioides, 18 Mar; E. comyntas, 26 Mar, 24 May, 1 July; C. ladon, 11, 26 Mar, 6 May, 15 July; L. bachmanni, 21 May, 17 June, 8 Oct; A. vanillae nigrior, 19-27 Aug, 8 Sept-9 Oct, abundant in fall; N. antiopa, 15 May; V. cardui, 1 Sept (one only); E. claudia, 27 Aug-16 Sept, 8-9 Oct; S. diana, 10-11 June, 19 Aug to 2 Sept (males at earlier dates, females later); E. tharos, 21 Apr, 29 May, 1 July, 17 Sept-15 Oct; C. gorgone carlota, 24 May (only one seen); C. nycteis, 29 May, 15 July, 27 Aug; B. artemis astyanax, 17 June-27 Aug; A. celtis, 21-29 May; A. clyton, 11 June; E. anthedon, and E. creola, 29 May; C. gemma, 17 June, 19 Aug and 16 Sept; C. pegala abbotti, 1 July, 2 Sept.

FLORIDA. BUTTERFLIES: P. pigmalion, Jonathan Dickinson St Pk, Martin Co, 16 Oct, Collier-Seminole St Pk, Collier Co,

12 Dec (both ABS); U. dorantes, Palatka, PUTNAM Co, 20 Sept (DB); A. lyciades, Manatee Springs St Pk, LEVY Co (no date) (JW via DB); T. confusis, Hernando Co, 2 Sept; P. communis, Blountstown, CALHOUN Co, 30 Sept, plus Liberty & Pasco Cos, 30 Sept-29 Oct (all JVC); C. minimus, Elliot Key, MONROE Co, (no date), SOUTH (MM via DB), Palatka, PUTNAM Co, (no date) (DB), Key Largo, Monroe Co, Sept, (MM via DB); P. baracoa, Masaryktown, PASCO Co, 2 Sept, SUMTER Co, 17 Sept, Hernando & Pasco Cos, 2 Sept; W. egeremet, Hillsborough Co, 8 Oct, Levy Co, 29 Sept (all JVC); A. arogos, Withlacoochee St For, CITRUS Co, 24 Sept (JK via DB), Citrus Co, 29 Sept (JVC); A. logan, SUMTER Co, 11 Oct (JK via DB); P. byssus, Levy & Citrus Cos, 27 Aug-29 Sept, Masaryktown, PASCO Co, 27 Aug; P. aaroni, Hillsborough & Pasco Cos, 12 Aug-29 Oct, CR 314, MARION Co, 7 Oct; P. vehl, Liberty Co, 30 Sept (all JVC); E. berryi, CR 314, MARION Co, 7 Oct (SK via DB); E. ruricola (=vestris), Citrus & Hillsborough Cos, 29 Sept-8 Oct; A. aesculapius, Liberty Co, 30 Sept (both JVC), Sampson, ST. JOHNS Co, 20 Sept (DB); A. alternata, Withlacoochee St For, CITRUS Co, 24 Sept (JK via DB); C. ethlius, Corkscrew Sanctuary, Collier Co, 11 Oct; P. panoquin, Collier-Seminole St Pk, Collier Co, 12 Oct, Canaveral Nat Seashore, Volusia Co, 16 Oct; P. panoquinoides, Collier-Seminole St Pk, Collier Co, 12 Oct (all ABS); E. marcellus, Big Cypress, Collier Co, 12 Oct, Ocala Nat Forest, Marion Co, 17 Oct (all ABS); A. monuste, Everglades Nat Pk, Monroe Co, 12-14 Oct; Z. cesonia, Ocala Nat Forest, Marion Co, 17 Oct (both ABS), Athena, TAYLOR Co, 1 Oct, Dixie Co, 1 Oct, along Suwannee Riv, GILCHRIST Co, 1 Oct (all JVC); P. agarithe, Fakahatchee Strand, Collier Co, 12 Oct (ABS), Key Largo, Monroe Co, 14 July; E. nise, Key Largo, Monroe Co, 14 July (both DLE), Elliot Key, Monroe Co, (no date) (MM via DB); C. simaethis, Elliot Key, Monroe Co, (no date) (MM via DB); T. azia, Collier-Seminole St Pk, COLLIER Co, Oct (JS); S. martialis, Everglades Nat Pk, Monroe Co, 14 Oct; S. columella, Big Cypress, Collier Co, 12 Oct (both ABS); B. isophthalma pseudofea, Big Pine Key, Monroe Co, 13 July (DLE); C. virginensis, CR 314, MARION Co, 7 Oct (SK via DB), Big Cypress, Collier Co, 12 Oct and Corkscrew Sanctuary, Collier Co, 11 Oct (both ABS); L. bachmanni, Hillsborough Co, 7 July (JVC); H. charitonius, Tall Timbers, LEON Co, 1 Oct (DB); J. evarete, Key Largo, Monroe Co, 14 July, plus Everglades Nat Pk, Dade Co, 12 July (both DLE), and Everglades Nat Pk, Monroe Co, 14 Oct (ABS); A. texana seminole, along Suwannee Riv, DIXIE and GILCHRIST Cos, 1 Oct (JVC); P. phaon, Key Largo, Monroe Co, 14 July (DLE); B. archippus floridensis, Everglades Nat Pk, Dade Co, 12 July (DLE); M. petreus, Corkscrew Sanctuary, Collier Co, 11 Oct (ABS), Everglades Nat Pk, Dade Co, 12 July (DLE), Fakahatchee Strand, Collier Co, 12 Oct (ABS); A. floridalis, Everglades Nat Pk, Dade Co, 13 Oct (both ABS); A. clyton flora, Hillsborough Co, 7 July (JVC); S. appalachia, along Suwannee Riv, GILCHRIST Co, 1 Oct (JVC), Dixie & Pasco Cos, 1-29 Oct (JVC), Manatee Springs St Pk, Levy Co, (no date) (JW via DB); L. gemma, Hillsborough Co, 8 Oct; C. pegala abotti, Levy Co, 29 Sept (both JVC); D. gilippus berenice, Tall Timbers, LEON Co, 1 Oct (DB) & Everglades Nat Pk, Dade Co, 12 July (DLE); D. eresimus, Hillsborough Co, 25 July-28 Sept, Oldsmar, PINELLAS Co, 28 Sept (both JVC).

MOTHS: ARCTIIDAE - C. fidelissima, Blowing Rocks Preserve, Martin Co, 15 Oct, Everglades Nat Pk, Dade Co, 13 Oct (both ABS). NOCTUIDAE - The following USA records were submitted by TSD, Ptichodis immunis, Bahia Honda SRA, MONROE Co, 3 Mar, STATE, USA (det MSA); Paectes lunodes, Charles Deering Estate, Miami, DADE Co, 27 Apr, 1 May, STATE, USA (det JGF); Leucania inconspicua, Long Key SRA, MONROE Co, 31 Mar 1984, STATE, USA (det MSA); Hypena exoticalis, Long Key SRA, MONROE Co, 18 Jan 1985, STATE, USA (det MSA); Eulepidotis striapuncta, Fuchs Hammock, DADE Co, 11 Nov 1984, STATE, USA (det MSA); Achaea ablunaris, North Key Largo, MONROE Co, 1 Dec, STATE, USA (det JGF); Anomis luridula, Charles Deering Estate, Miami, DADE Co, 25 Apr, STATE, USA (det RWP), additional records, 7 Sept, 29 Nov, 20 Dec. Other records were, Eulepidotis metamorpha, Bahia Honda SRA, MONROE Co, 12 Mar (det MSA, second known USA record); Mocis cubana, Charles Deering Estate, Miami, DADE Co, 29 Nov; Spodoptera androgea, Big Cypress Nat Preserve, COLLIER Co, 7 Apr, and Charles Deering Estate, Miami, DADE Co, 25, 27 Apr (all TSD).

GEORGIA. BUTTERFLIES: A. lyciades, Burke Co, 27-30 Apr; S. hayhurstii, SE of Gainesville, Burke Co, 14 May, 3 July (both CA); E. horatius & E. zarucco, Lowndes Co, 16 July (JVC); H. metea, Dahlonega, Burke Co, 23 Apr; P. viator, nr Savannah Riv, Burke Co, 30 May, 25 July; A. hianna, Heard Co, 2 May; A. alternata, small woodland clearings, Burke Co, 13 Apr (all CA); P. ocola, Lowndes Co, 16 July (JVC); E. marcellus, Okefenokee NWR, Charlton Co, 20 and 21 Mar, vic Warthen, Washington Co, 24 Mar, Sweetwater Creek St Pk, Douglas Co, 26 Mar (all DLE); F. midea, US 341 near Pulaski Co line, Houston Co, 19 Mar (DLE) and Burke Co, 8 Apr, locally common (CA); E. nicippe, SR 94, Charlton Co, 21 Mar, US 341 near Pulaski Co line, Houston Co, 19 Mar, Sweetwater Creek St Pk, Douglas Co, 26 Mar (all DLE); F. tarquinus, US 341, Houston Co, 19 Mar (DLE), Savannah Riv banks, Burke Co, 21 July, 7 Sept, sipping ground moisture (CA); H. titus & S. calanus, Burke Co, 21-25 May, both locally abundant; I. nippon, Coweta Co, 2 May; G. lygdamus, Burke Co, 8 Apr, locally common (all CA); H. charitonius, Burke Co, 12 Sept; P. progne, Pigeon Mt, Burke Co, 5 Aug; N. antiopa, Burke Co, 21 May; C. gorgone, Burke Co, 9 Apr (all CA); A. celtis, Lowndes Co, 16 July (JVC); H. sosybius, US 17, S of Little Satilla Riv, Camden Co, 22 Mar, vic Okefenokee NWR, Clinch Co, 20 Mar (both DLE).

MOTHS: SPHINGIDAE - H. thysbe, SR 177 nr Okefenokee NWR, Clinch Co, 20 Mar (DLE).

MISSISSIPPI. No reports

NORTH CAROLINA. All records are Fontana Dam, Swain Co, 7-9 July (BB).

MOTHS: SATURNIIDAE - C. angulifera. SPHINGIDAE - M. jasminearum; L. coniferarum. NOCTUIDAE - Catocala innubens; C. judith; C. flebilis; C. residua; C. resecta; C. palaeogama; C. ilia; C. sordida; C. gracilis; C. andromedae; C. coccinata; C. blandula; C. similis; C. epione; C. micronympha; C. connubialis; C. amica.

SOUTH CAROLINA. All butterfly records are Hilton Head Island, Beaufort Co, 3-5 Aug (VA). All moth records the same, unless otherwise noted, and all by VA.

BUTTERFLIES: A. lyciades; E. zarucco; C. minimus; H. phyleus; P. vibex; W. otho; W. egeremet; L. eufala; P. panoquin; H. cresphontes; P. palamedes; A. jatrophae; E. claudia; A. celtis reinthali; D. gilippus berenice.

MOTHS: MEGALOPYGIDAE - M. opercularis, also Richbury, Chester Co, 24 June. LIMACODIDAE - Isochaetes beutenmulleri, also Richbury, Chester Co, 24 June; I. textula, Richbury, Chester Co, 24 June; E. delphinii; S. stimulea. PYRALIDAE - Aethyophysa lentiflualis; Xanthophysa psychialis; Lipocosma sicalis, Richbury, Chester Co, 24 June; Hahncappia maculenta; Uresiphita reversalis; Spoladea recurvalis; Urota nivalis; Clynotopteron tecomae, Richbury, Chester Co, 24 June. GEOMETRIDAE - Glenoides texanaria; Plagodis phlogosaria, Richbury, Chester Co, 24 June; Synchlora frondaria; Disclisoprocta stellata. LASIOTRIPIDAE - Tolype minuta; Artace cribraria. SATURNIIDAE - Citheronia sepulchralis; Dryocampa rubicunda; Anisota stigma, also, Richbury, Chester Co, 24 June; A. virginensis pellicida. SPHINGIDAE - Paratreia plebeja, Richbury, Chester Co, 24 June; Lapara coniferarum, Richbury, Chester Co, 24 June; P. myops, also Richbury, Chester Co, 24 June; Eumorpha pandorus; X. tersa. NOTODONTIDAE - H. umbrata. ARCTIIDAE - Haploa clymene; Leucanopsis longa. LYMANTRIIDAE - Dasychira atrivenosa. NOCTUIDAE - Plusiodonta compressipalpis, Richbury, Chester Co, 24 June; Melipotis jucunda; Allotria elonympha; Caenurgja chloropha; Mocis latipes; Catocala amica, Richbury, Chester Co, 24 June; Argyrogramma basigera; Agraha oxygramma; Pseudoplusia includens; Marathyssa inficita and Paectes abrostoloides, Richbury, Chester Co, 24 June; E. abrostoloides; Nola triquetrana; Tarachidia semiflava; T. candefacta; Spragueia onagrus; Acronicta spinigera; A. lobeliae; Harrissimemna trisignata; Callopsistria cordata; Spodoptera ornithogalli; Elaphria versicolor, Richbury, Chester Co,

24 June; Platysenta mobilis; P. sutor; Orthodes crenulata, Richbury, Chester Co, 24 June.

TENNESSEE. BUTTERFLIES: A. campestris, Knox Co, 15 July (JVC); P. sennae eubule, SE Tennessee, W slopes of Great Smoky Mtns Nat Pk, 3 to 6 Oct, fall migration (CS via DW); L. bachmanni, Newfound Gap, Great Smoky Mtns, 6 Oct, nectaring on white asters (CS via DW).

MOTHS: CTENUCHIDAE - Cosmosoma myrodora, South Holston Lake, SULLIVAN Co, 27 Oct (DC).

VIRGINIA. BUTTERFLIES: S. hayhurstii, Kipps Farms, Madison Co, 2 June; E. icelus, Shenandoah Nat Pk, Madison Co, 5 June; P. communis, P. themistocles & A. campestris, Kipps Farms, Madison Co, 2 June (all DLE); P. sennae, Richmond area, 14 Sept & 29 Oct, common on latter date along the James River (WTH); L. phlaeas, Shenandoah Nat Pk, Madison Co, 5 June (DLE); C. bellona, Shenandoah Nat Pk, Madison Co, 5 June (DLE).

MOTHS: GEOMETRIDAE - Plagiodis kuetzingi, Breaks Interstate Park, DICKENSON Co, 28 July, at blacklight (DC). SPHINGIDAE - S. frankii, Rt 75, Abingdon, WASHINGTON Co, 11 July (DC). NOCTUIDAE - C. crataegi, Rt 670, Abingdon, WASHINGTON Co, 11 July (DC); Lithophane lemmeri, Prince William For Pk, PRINCE WILLIAM Co, 30 Mar, at blacklight (DS via DW).

BERMUDA. No reports.



ZONE 10 NORTHEAST: LABRADOR, NEWFOUNDLAND, MARITIMES, NEW ENGLAND, NEW YORK, PENNSYLVANIA, NEW JERSEY, MARYLAND, DELAWARE, DISTRICT of COLUMBIA. Coordinator: Dave Winter (DW). Contributors: Charles Bier (CB, via DS), Richard Boscoe (RB), William Boscoe (WB), Charles Covell (CC), R. Dearborn (RD, via MR), John H. Fales (JHF), Jeff Frey (JF), James D. Hedbor (JDH), Henry Hensel (HH, via LPG), Jim Holmes (JH), Robert Gardner (RG, via RS), L. Paul Grey (LPG), Warren Kiel (WK), Ron Leuschner (RL), Jerry McWilliams (JM), Mark Mello (MM), Donald H. Miller (DM, via JDH), David Norris (DN, via DS), Edward Peters (EP), Michael Roberts (MR), Michael Sabourin (MS, via JDH), Calvin Schildknecht (CS), Kathy Schneider (KS, via DS), Dale Schweitzer, reporting for himself and various members of The Nature Conservancy (DS), Richard H. Smith (RS), Sam Stull (SS, via JM), Martin Turgeon (MT), Mervin Wenger (MW, via JF), Anthony Wilkinson (AW, via DS), Cynthia Wood (CW, via WK), and Harry Zirlin (HZ). Determinations by: Doug Ferguson (DCF), J. Don Lafontaine (JDL), Tim McCabe (TLM), Eric Quinter (ELQ). GENERAL COMMENTS: Reports lacking specific locality data, i.e., giving county only, or a general region of the state, are so entered at the request of the contributor, for reasons of conservation. Abbreviations: Cos = Counties; det = determined by; MV = mercury vapor; nr = near; SP = State Park. County name in caps = county record.

LABRADOR. BUTTERFLIES: Carterocephalus palaemon, 3 July, Red Bay & Clossiana selene, 9 July, L'Anse au Claire (EP).

MOTHS: Aspidates conspersarius, 3 July, Red Bay (EP); Syngrapha selecta, S. diasema, and S. interrogationis, July, Schefferville (HH); Crymodes exulis, 3 July, Red Bay (EP, det JDL), plus early July, L'Anse au Loup (LPG); Polia rogenhoferi, early July, L'Anse au Loup (LPG); Anartomima secedens, Lasionycta subdita, 3 July, Red Bay (EP); Pachnobia scropulana, early July, L'Anse au Loup, dozens, a pest in a MV trap (LPG); Anomogyna fabulosa, Paradiarsia littoralis, and Hyppa nr brunneicrista (det JDL), 3 July, Red Bay (EP).

NEWFOUNDLAND. BUTTERFLIES: Oeneis p. polixenes, 3 July 1982, Bellburns (EP).

MOTHS: Eufodonia discospilata, 24 June, Bellburns; Smerinthus jamaicensis, Hyles gallii, Lacanobia rugosa, Agrotis musa (det JDL), 23 June, Grand Codroy (all EP).

NEW BRUNSWICK. MOTHS: Syngrapha selecta, 28 Aug, S. montana, 12 July, Stretchia plusiaeformis, 18 May, & Triphaena pronubis, 14 & 22 Aug, St. Basile, Madawaska Co; Anomogyna perquiritata, 12 Aug, Belone Brook, Restigouche Co (all MT).

VERMONT. The state is back on the map, with a small group of active resident collectors. Reporting is by Jim Hedbor. A current Vermont list is in the making.

BUTTERFLIES: Erynnis juvenalis, 25 May, Colchester, Chittenden Co (JDH); Polites origenes, 4 July, South Hero, Grand Isle Co (JDH); Wallengrenia egeremet, 9 July, Danby, Rutland Co (MS); Pompeius verna, 22 July, South Hero (JDH); Atrytone delaware, 9 July, Danby (JDH); Poanes massasoit, 9 July, Danby (MS); Euphyes dion, Colchester (MS); Pieris virginianensis, 8 June, East Fletcher, Franklin Co (JDH); Satyrium caryaevorum, Mitoura grynea, 15 July, South Hero (JDH); Glaucopsyche lygdamus couperi, 25 May, Colchester (JDH); Polygonia gracilis, 18 Aug, Duxbury, Washington Co (JDH); Satyrodes appalachia, Colchester (MS); Oeneis jutta, 19 Jun, Essex Co (DM); and 67 additional species of butterflies.

MOTHS: Clepsia persicana, 27 May, Maidstone, Essex Co, larva reared from pink ladyslipper (MS); Haploa reversa, 21 May, Milton, Chittenden Co, larva reared on marsh marigold (MS); Catocala habilis, 20 Aug, C. obscura, 4 Aug, plus C. residua, 4 Aug, South Hero, Grand Isle Co (JDH); C. marmorata, 10 Sep, Milton (JDH); and 42 additional species of moths.

NEW HAMPSHIRE. BUTTERFLIES: Incisalia nippon, 3 June, Wentworth Location, Coos Co, caged females oviposited on Pinus strobus on which progeny were reared to pupae (RB); Incisalia eryphon, (STATE), 3 June, Wentworth Location, COOS Co (RB); Glaucopsyche lygdamus couperi, 22 June, Jefferson, Coos Co (JH); the species has also become established in additional vetch meadows in the Whitefield area, Coos Co (WK).

MOTHS: Tosale oviplagalalis, late June to early Aug & Idaea dimidiata, 13, 21 July (det DCF), Whitefield, Coos Co (WK); Anisota virginianensis, 4 July 1987, Bethlehem, Grafton Co (CW); Cerura multiscripta canadensis, 21 June, Whitefield (WK, det DCF); Lycomorpha pholus, 23 July, Jefferson, Coos Co (JH); Mycterophora inexplicata, 3, 6 Aug 1985 (det ELQ), Bomolocha bijugalalis, 18 July, Catocala coccinata, 21 Aug, all Whitefield (WK); Chrysanympha formosa, 4 July, Whitefield (JH); Eosphoropteryx thyatyroides, 1 Sep, Papaipema cataphracta, 30 Sep, P. nelita, 14, 20 Sep 1988 (det ELQ), Epiglaea decliva, 2 Oct (det DCF), Chaetagnathia sericea, 17 Oct (det DCF) & Hillia iris, 19 Sep, all Whitefield (WK); Oncocnemis piffardi, 17 Sep, Jefferson (JH); Calophasia lunula, 11 Sep 1988 (det ELQ), Cucullia omissa, 28 June, Whitefield (WK); Lasionycta subdita, 16 July, Mt. Washington, Coos Co (JH, det DCF); Anomogyna youngi, 1 Sep (det DCF), Protolampra brunneicollis, 26 July 1985, Whitefield (WK). Odd Couple Candidates: at blacklight, Whitefield, 19 May, WK took Morrisonia evicta firmly joined with Ichthyura albosigma. When cyanide dimmed their ardor, both moths were found to be males.

MAINE. BUTTERFLIES: Incisalia eryphon, 29 May, Magalloway, Oxford Co, caged females offered a choice of Picea mariana or Pinus strobus oviposited on strobilus, on which progeny were reared to pupae (RB); and 3 June at Wilsons Mills, Oxford Co, common, but worn (WK). Coenonympha inornata, 1 July, Kittery, York Co, plus 3 July, Steuben, WASHINGTON Co (CC).

Oeneis jutta, 3 June, large bog at NH border, Oxford Co (WK).

MOTHS: Gliphipteryx sistes viridimontes, 5 Nov 88 (artificially forced in greenhouse containing only native local plants and ornamentals grown from seed), Zelleria heimbachi, 25 July (reared from Pinus banksiana), Endopiza exasperana, 26 July, Hedya nubiferana, 8 July 87, Barbara colfaxiana, 29 May, all Steuben, Washington Co (MR), plus latter also at Enfield, Penobscot Co (LPG); Zeiraphera unfortunata, 25 July, Gretchena semialba, 22 June, Epinotia myricana, 18 Sep 87, E. corylana, 5 July, Ancylys albocostana, 13 June 88, all Steuben (MR); Cydia inopinosa, 27 June (reared from bark of Pinus resinosa), Newport, Penobscot Co (RD); Cydia fletcherana, 27 June, Pseudexentera vaccinia, 12 April to mid-May, common, and P. kalmiana, 15-19 May, mod. common, Sparganothis salinana, 24 July, Steuben (MR); Homochlodes fritillaria, 7 July, Metarranthis refractaria, 7 July (det DCF), Steuben (CC); Callosamia promethea, Steuben, WASHINGTON Co, females at light 1988 & 1989, plus live cocoons on ash and wild cherry (MR), also hundreds of males to a caged female 24 June, Enfield (LPG); Hyalophora columbia, 23 Jun, Steuben (MR); Panthea pallescens, 7 July, Steuben (CC); Hypocoena orphnina, 14 Aug, Calophasia lunula, 24 June, 20 Aug, Steuben (MR), and 30 May 88, 12 Aug 89, Enfield (LPG); Triphaena pronuba, 17 Aug, Steuben (MR).

MASSACHUSETTS. BUTTERFLIES: Battus philenor, 9 Aug, So. Dartmouth, Bristol Co (MM); Feniseca tarquinius, 18 May, Shirley, Middlesex Co (EP). Euphydryas phaeton, 2 July, hundreds, ovipositing on Plantago lanceolata, W. Bridgewater, Plymouth Co (DW).

MOTHS: Eucosma tocullionana, 27 May, Shirley, Middlesex Co; Eumocaria latiferrugata, 5 June, Shirley; Semiiothisa bisignata, 16 Nov, LATE, Dedham, Norfolk Co (DW); Sphinx drupiferarum, 1 July, Truro, Barnstable Co (MM); Gluphisia avimaculata, 15 May, Shirley; Catocala herodias, 23 July, Truro & Wellfleet, Barnstable Co, many at light and bait (MM); Syngrapha alias, 20 June, So. Dartmouth (MM); Exyra rolandiana, 12 Aug, Provincetown, Barnstable Co (MM); Lithocodia musta, 22 July, Shirley, Middlesex Co (EP); Acronicta distans, 30 May, Shirley; Pyreffera sp. n., 12 Oct, So. Dartmouth (MM); Psectraglaea carnosa, 22 Sep, Shirley; Anathix puta, 5 Sep, Shirley; Lacinipolia anguina, 29 May, Shirley; L. olivacea, 23 Sep, Shirley; Agrotis manifesta, 20 May, Shirley (EP); Triphaena pronuba (STATE) 30 June, 2 July, 27 Aug, Truro, BARNSTABLE Co (MM).

CONNECTICUT. BUTTERFLIES: Calephalis borealis reported in 4 colonies in Fairfield Co, early to mid-July (DN).

RHODE ISLAND. MOTHS: Sphinx drupiferarum, 1 June plus Abagrotis crumbi benjamini, 21 July, Block Island, Washington Co (MM).

NEW YORK. BUTTERFLIES: 1987-89 studies suggest 98% decline in L. melissa samuelis since 1979 on Albany Pine Bush, apparently due to succession and lack of fires; remnant colonies extant in 1989 in Saratoga Co and Warren Co (DS, KS).

MOTHS: Sphinx canadensis, 27 July, plus Hyles euphorbiae, 24 June, Chestertown, Warren Co (JDH); Dasychira cinnamomea, Macrochilo hypocritalis, and Fagitana littera, 2 July, Ancram, Columbia Co (KS).

PENNSYLVANIA. BUTTERFLIES: Papilio cressphontes again laid eggs on garden rue in preference to adjacent citrus (CS); Pontia protodice, 2 Aug, Presque Isle SP, ERIE Co (JM); Falcapica midea, 2 Apr, Philadelphia, Montgomery Co (WB); Polygonia comma, sunning, 1 Feb, Gettysburg, Adams Co (CS). Nymphalis vaualbum j-album, 27 Apr, Game Lands 102, Erie Co (JM), and 15 Oct near Lake City, Erie Co (SS); Speyeria idalia survives in two eastern PA counties (DS and AW); D. plexippus, scarce in 1988, was abundant in late Sep, Gettysburg, with the last larva seen 16 Sep, and with Asclepias curassavica again preferred over native milkweeds for oviposition (CS).

MOTHS: Anticlea vasilata, 17 Apr, Ridley Creek, Delaware Co (RL); Eupithecia exudata, 17 Apr, Berwyn, Chester Co (RL); Sphinx frankii (? STATE) 3 July, nr Susquehanna R, LANCASTER Co (JF & MW); Holomelina laeta, 16 Aug, Nottingham Barrens, Chester Co (DS & AW); Catocala parta, 22 Aug & 21 Sep, Willow Grove, Montgomery Co (WB); Chytonix sensilis (STATE), 16 Aug, State College Barrens, CENTRE Co (CB); Anomogyne, the true southern elimata (STATE), 16 Aug, Nottingham Barrens, CHESTER Co (DS & AW); Cerastis tenebrifera, 17 Apr, Ridley Creek, Delaware Co (RL).

NEW JERSEY. BUTTERFLIES: Thorybes confusus, 20 May, Dividing Creek, Cumberland Co; Problema bulenta (STATE) 1-30 July in tidal marshes of ATLANTIC (W. J. Cromartie) CAPE MAY, and CUMBERLAND Cos (DS). Poanes aaroni and Panoquina panoquin, 18 June, Ocean View, Cape May Co, caged females of each oviposited on Distichlis spicata, progeny reared to adults (RB); Euphyes dion, 2 July, and Parrhasius m-album, 12 June, Springdale, Sussex Co (HZ); Nymphalis vaualbum j-album, Mar-Apr, Cumberland Co (DS). Neonympha mitchellii, confirmed extirpated (almost certainly by collectors) from last known site in Warren Co (DS).

MOTHS: All DS. Hypomecis buchholzaria, Lakehurst, Ocean Co, reared on Comptonia (unlikely as a normal food), hibernation as pupa; Glena plumosaria, 6 Aug, Dividing Creek, Cumberland Co; Phigalia denticulata, 25 Jan thru 21 Feb, Cumberland and Atlantic Cos; Pero zalissaria and Eusarca fundaria (6933), Aug-Oct, Dividing Creek; Nemoria saturiba (STATE), 10 June, CUMBERLAND Co, plus Idaea violacearia and I. obfusaria, in July, Bear Swamp East Natural Area, near Dividing Creek; Citheronia regalis recovering at least as far north as Batsto, Burlington Co, where it was absent 1969-1980; Macrochilo litophora, louisiana, and hypocritalis, 26 July, Bear Swamp; Rhizedra lutosa (NORTH AMERICA, det TLM), two on 2 Oct nr Dividing Creek, CUMBERLAND Co [confused with Ommatostola lintneri, making all NJ records of that species now suspect]; Hypocoena enervata, 23 June, Bear Creek; Lithophane lemmeri, 14 Feb, Buckshutem, Cumberland Co; L. viridipallens reared on Clethra and Leucothoe, Bear Creek, seemed to be a general feeder, accepting most local shrubs and Smilax freely, rejecting pines; L. lepida adipel, 28 Nov, Bear Swamp; Agrotis buchholzi, reared on Pyxidantha barbulata, Lakehurst, Ocean Co, hibernates as pre-pupa.

DELAWARE. BUTTERFLIES: Thymelicus lineola (STATE), 17 June, Brandywine Creek SP, NEW CASTLE Co (RS); Atlides halesus, 30 June, Primehook Beach, SUSSEX Co (RS), and 9 Aug, Delaware Wildlands Cypress Swamp, Sussex Co (RG).

MARYLAND. BUTTERFLIES: Lerema accius, 5 Sep 1988, Queenstown, QUEEN ANNES Co (RS), and 15 Nov, LATE, Calvert Co (JHF); Euphyes dion, 1 Aug 1988, Shavox, WICOMICO Co (RS); Battus philenor, 5 Sep 1988, Queenstown, QUEEN ANNES Co (RS); Papilio cressphontes, 25 July, Plum Point, Calvert Co (JHF); Eurytides marcellus, 2 Jul 1988, Queenstown, QUEEN ANNES Co, and 10 Sep, Queen Anne, TALBOT Co (RS); Pontia protodice, 27 Aug 1988, Shavox, WICOMICO Co (RS); Eurema nicippe, 27 Aug 1988, Shavox, WICOMICO Co, 1 Aug 1988, Furnace, WORCESTER Co, and 27 Aug & 5 Sep 1988, Queenstown, QUEEN ANNES Co (RS); Feniseca tarquinius, 20 Aug, Patapsco SP, Avalon Area, HOWARD Co (RS); Calycopis cecrops, 21 Aug 1988, Columbia, HOWARD Co (RS); Incisalia irus, 2 May 1988, Shavox, WICOMICO Co (RS); Charidryas nycteis, 22 June, northern Anne Arundel Co, and 7 Aug, CALVERT Co (JHF).

MIGRATION: JHF saw single worn Danaus plexippus in Calvert Co 26 & 28 April, one in late May, two in late June. Five fresh specimens were seen on 30 June. The species was seen on 13 days in July, and on 20 days in August. Numbers increased to 67, seen migrating 26 September, and 76 on 3 October. A total of 479 were seen during 1989, about 6 times

the 1988 total.

AMBULATION: As an inveterate invertebrate counter, JHF, in 21 one-mile highway counts from 22 September to 13 November observed an average of 6.1 Pyrrharctia isabella woolly bears per mile crossing the road. He did not report how many actually made it across.

PREDATION: JHF also reported on his first crab spider/moth catch, a plusiine on 17 Sep. Lerema accius & Poanes zabulon were similarly victimized on 17 Sep and 22 Aug, while ambush bugs entrapped Wallengrenia egeremet on 27 Aug, and Vanessa atalanta on 9 July.



ZONE 11 HAWAII / PACIFIC ISLANDS: Coordinator: J.C.E. Riette [RI]. Contributors: Gregory S. Forbes, Las Cruces, NM, U.S.A. [F]; Robert L. Langston, Kensington, CA, U.S.A. [L]; John T. McBurney, Anaheim, CA, U.S.A. [M]; David Preston, Bishop Museum, Honolulu, HI, U.S.A. [P]; Duncan Robertson, Kingston, ONT., CANADA [RO]. The weather in 1989 was very much on the dry side, as it was the year before. The much needed rain only came very late. The butterfly population on the Hawaiian Islands was therefore quite low in numbers in this year also.

HAWAIIAN ISLANDS. BUTTERFLIES: This year Papilio xuthus was not too much affected by the weather. Danaus plexippus and Agraulis vanillae were also seen everywhere and often. Lower in numbers were the blues and the skippers, as also was Pieris rapae. On Maui and Oahu, F and RO were able to capture almost all species of butterflies known from the islands, except only RO confirmed the well known locality of Udara blackburni (Mount Tantalus on Honolulu) while only F collected Tmolus echiion on Maui. Only P was able to re-confirm the Aiea Heights locality for Vanessa tameamea this year. The Banana Skipper (Erionota thrax) and the small blue Prephidium exilis were not reported by anybody.

MOTHS: Among the moths reported is only one of special interest, which was photographed in a beautiful picture by RO on Punchbowl in Honolulu. A copy of the photograph was sent to the British Museum (Nat. Hist.) for identification.

PACIFIC ISLANDS: L travelled this year further into the Pacific and collected on Fiji, Tahiti and in Australia. From Fiji he reported especially the well known Eurema, Catochrysope, Zizina, Zizula, Precis and Hypolimmas. He did not find any albino Danaus plexippus, but only normal ones. However, as compensation, he netted some of the beautiful Xois. In Tahiti he was not lucky. He was there in the middle of January and found only 3 species of butterflies (Lampides, Zizina and Euploea) and no moths at lights. It was probably the wrong time of the year at the height of summer when most lepidoptera live in the larval stage. One month earlier he was very successful in Australia. A list of his collected species can be obtained from the coordinator. One of the reporting members [M] collected in Indonesia, Java and the Lesser Sundas. In this case also a list of his collections can be obtained from the coordinator. As an addition to the 1988 report, it can be made known that the "unknown" sphingid species from the Society Islands represents a species which was known only from the badly preserved female type in the Carnegie Museum, with an unknown locality. It was supposed to be either from Mexico (in the original description) or from the "Oriental Region" (Rothschild & Jordan in a redescription). It is Philodila astyanor. The final redescription will be published soon [RI].



ZONE 12 THE NORTHERN NEOTROPICS: MEXICO, CENTRAL AMERICA, THE ANTILLES. Coordinator: Eduardo C. Welling M. Contributors: James P. Brock (JPB), John T. McBurney, Andy Warren, Keith S. Brown, Michael J. Smith, Peter M. Jump (PMJ), Scott McCleve (SM), Steven J. Prchal (SJP), Frank Rutkowski. **WEATHER SUMMARY:** Once again, as in 1988, the general tendency was for drought. 1989 began with frequent cool spells (northers) in the northern reaches of the zone. A low temperature of 3°C was felt in Mérida early in the year. Exceedingly strong sunspot activity, around March 12, caused an Aurora Borealis observed as far south as Honduras. It alarmed village and forest people who had no idea what was happening. It was one of the outstanding events of the year. In the hurricane damaged forest areas in northern Quintana Roo, fires raged from May through August due to dry conditions from lack of rainfall. It was later proved that these were set intentionally by foreign (from central México) squatters who wanted to clear public domain lands and then claim them for settling; about 38 people were arrested and jailed, since the government would not allow these sorts of tactics to prosper. Contrary to what was originally feared, most of the burnt out areas were close to Cancún and its vicinity, and were not widespread all over the northern part of the state. Even so, about 150,000 hectares went up in smoke. Dryish conditions continued until the last week in September, when diluvian style rains began, flooding many areas in the Gulf of México area and elsewhere, especially in southern Campeche and Tabasco. In Yucatán, the excessive rain ended about Oct 15, but it continued on later in the year further to the south. Crops were scarce and meager. October brought in more cool weather from the north; the week before Christmas was especially bad, with tremendously large agricultural losses in northern México, even at sea level, and up into the central highlands. The remains of the flamingo colony along the north coast of Yucatán were studied, and it was noted that many flamingos were appearing in several ports and coastal areas far from their traditional grounds near Celestún, in Western coastal Yucatán, and the Laguna de Yalahau on the north coast near the Quintana Roo border. The birds are apparently very disoriented after the 1988 hurricane. Many of the northern Quintana Roo "beaches" were still without sand while others were slowly recuperating. Abbreviations: km = kilometers; m = meters; sp = species (singular); spp = species (plural).

THE BAHAMAS: JPB was in the Great Abaco Island group and at New Plymouth, Green Turtle Cay on May 30. He collected 22 species of butterflies, including Nathalis iole, Eurema lisa, Junonia coenia, Phycoides frisia, Marpesia eleuchea (sighted), Chlorostrymon maesites, Tmolus azia (apparently a new record for all of the Bahamas), and Ephyriades brunneus. On Powell Cay on June 2, he found eight species, including Eurema dina and Hylephila phyleus. On Great Guana Cay on June 3, nine species were taken, including C. maesites, Electrostrymon angelia, P. frisia, and Polygonus leo.

REPÚBLICA DOMINICANA = DOMINICAN REPUBLIC: K. S. Brown collected again at Constanza, finding some further surprises, including Atlantea cryptadea (seen last year, photographed and one male caught this year), Battus zetides (ten males marked, all recaptured up to 500 m away along a ridge), Anetia pantherata (ova found with females ovipositing freely in a bag on a Metastelma sp. with very small leaves), six spp of Calisto, including the rare galii, Prepona amphitoë and many unusual Eurema and Hesperiidæ. The area near Peralta was especially rich in spp, including Anetia briarea at only 400 m elevation. In the eastern part of the island, the remnant woods near the Ingenio Quisqueya produced many nice Papilionidæ, Calisto, Phoebis, and Choranthus haitensis.

VARIOUS ISLANDS IN THE ANTILLES: K. S. Brown found good populations of Battus polydamas above Kingstown on St. Vincent, on Martinique (hilltop between Riviere Pilote and Marin), Guadeloupe (east of Pointe-Noire), and on Hispaniola in many

localities, but not on Barbados, where it may be an immigrant, nor on St. Lucia, Dominica, or Antigua. Local forms of Dryas iulia were found on all above mentioned islands. Allosmaitia pipelea was found on Martinique and on Guadeloupe. Electrostrymon dominicana was on the former, Wallengrenia ophites was on both & also Dominica. Papilio androgeus was on St. Vincent, while many unusual Hesperidae were on all islands. Frank Rutkowski found Panoquina panoquinoides ovipositing on Sporobolus virginicus at 1400 hours on Sept 6, near Fredericksted, St. Croix, U.S. Virgin Islands.

MEXICO. SONORA. JPB collected 5 km NW of Huicoche on July 12-13, taking 35 spp, including Mitoura estella (STATE RECORD), Atlides halesus, Smyrna karwinski and larvae of Chlosyne hylaeus. SJP, JPB, PMJ, SM, in the Sierra Milpillas near Huicoche, took Rothschildia o. orizaba (STATE RECORD) and Copaxa m. multifenestrata (STATE RECORD) on July 12. Sphinx leucophaeta was taken ENE of Alamos on July 12. Jean-Marie Cadiou identified Dolbogone hartwegii (STATE RECORD) from collecting done at Tres Rios Rd at Río Riito, NW of Nacori Chico on July 15, 1988, leg PMJ. The above 4 collectors also took Rothschildia c. cincta, Antheraea polyphemus oculatea, Copaxa muellerana, Syssphinx hubbardi, Othorene verana, Citheronia splendens sinaloensis and Eacles oslari, on July 12 at Huicoche, in the Sierra Milpillas range.

CHIHUAHUA. SJP, JPB, PMJ, SM took C. m. multifenestrata (STATE RECORD), 5 km NE of Los Cococos, July 10. JPB, 5 km NE of Las Chinacas, July 10-11, found 18 species of butterflies, including Zestusa dorus, Thoryles drusus and Pindis squamistriga.

JALISCO. Andy Warren sent in a list of 55 spp taken at Puerto Vallarta in late 1988 (Dec 29-30), including Dione juno, Chlosyne lacinia, Melitaea theona (very common hilltopping), Melanus pixe, Baetis hisbon zonata, Emesis mandana, emesia, and others, Anteros carausius, several Calephelis, Thereus zebina, Strymon albata, Callophrys miserabilis, Tmolus azia, Arawacus jada, Parides photinus, Cybaeus odilia, Lerodia arabus, ancillarulus & accius, Anastrus sepiurnus, Pyrrhopyge chloris, Phocides polybius & pigmalion, Panoquina fuscina. At Yelapa, Dec 28, 1988, Warren reports 35 species, including Ascia josephina, Parides montezuma & photinus, Evenus regalis, Adelpha fessonia, celerio, iphicla & naxia, Colobura dirce, Heliconius erato petiveranus, Morpho polyphemus, Melinaea ethra flavicans, Astraptes anaphus, fulgurator & alector.

MAYARIT. Warren collected at Nuevo Vallarta, Dec 26-31, finding 54 spp, including many of those mentioned above for Yelapa and Jalisco, plus Strymon columella, vojoa (common) & bazochii, Calycopis isobeon, Ministrymon clytie, Tmolus echion, several Plebejinae, Lasaia sula, Caria ino, Theope publius, and another sp near virgilius, Doxocopa laure, Phycoides campestris, Opsiphanes cassina. A Morpho polyphemus was observed at the ocean hovering 1 foot above the waves in the same spot for 15 minutes, until it was disturbed.

SINALOA. Warren spent Dec 27 at Mazatlán, submitting a list of 36 spp. Some of the more interesting ones were Electrostrymon endymion, C. isobeon, T. azia, Phycoides phaon, Parides photinus, and Heliconius charitonius with orange bands instead of yellow ones.

YUCATAN. From late September onwards, upon the advent of rainfall, a population explosion somewhat like that of 1988 began on a slightly reduced scale. The array of spp in Welling's backyard once again was impressive, and this lasted until December, consisting of most of the same species as last year. The late 1988 display of butterflies (see 1988 report) lasted well into early March 1989. On Dec 10 in Mérida, a Composita fidelissima was seen, first one so far inland from the beaches which are its regular haunt.

QUINTANA ROO. Near Nuevo X-cán, with the late September rains, several families of moths abounded. Sphingidae were well represented but some species were absent, i.e., Manduca wellingi, muscosa & florestan. Pericopis gaumeri was scarce; Phaloë cubana, abnormally common, along with many Ctenuchidae, Arctiidae, Lithosiidae. A Hylesia sp was out by the ten thousands and the body scales of this species caused skin rash to anyone investigating. Butterflies were scarce in general. It was thought that because the 1988 hurricane destroyed so much forest in the northern part of the state, there would be a large population explosion of wood boring beetles taking advantage of the situation. The drought must have counteracted this because there were no spectacular explosions, except for one or two Buprestidae, a few Cerambycidae, and several Elateridae, which are normally quite rare. One thing was noticed, towards December there were large numbers of Chrysobothris atabalipa and moderate numbers of some other Buprestids which normally are at a low or absent so late in the year. If rainfall becomes normal in 1990, we may yet see beetles taking advantage of all the dead wood. Some collecting sites were noticed to have leafed out quite well in spite of the meager rainfall -- a very good sign, and an indication that not all the trees were destroyed by the 1988 hurricane, many having had their limbs lopped off but nevertheless they are still alive.

COSTA RICA. J. T. McBurney submitted a very extensive report from four provinces.

BUTTERFLIES: Lomas Barbudal, Guanacaste Province, June 4-7, Phoebis statira, sennae, philea, Eurema proterpia, daira, Eunica monima modesta, Junonia evarete, Microtia elva, Heliconius hecale, Leptotes cassius. El Pacifico, Guanacaste Province, June 4-7, E. proterpia, Adelpha iphiclus, J. evarete. From Monteverde, Puntarenas Province, June 8-12, Dismorphia crisis lubina, Tegosa a. anieta, Anthanassa a. ardyx, Dione moneta, Euptychia hermes, Morpho peleides limpeda, Codatractus imalana, Astraptes anaphus, Achylodes pallida, Poanes zabulon, Calpodus ethlius. Near Santa Elena, Puntarenas Province, June 8-12, Adelpha leucophthalma, J. evarete, Chlosyne janais, Dryas iulia, Heliconius hecalesia, formosus, clysonymos montanus, erato petiveranus, Dircenna chiriquensis, Pteronymia notilla, Pedaliodes manis, Thecla pastor. From Marengo, Puntarenas Province, June 19-22, Heliconius hewitsoni, Sara theudela, Hemiarqus ceraunus. From La Selva, Heredia Province, June 13-15, Parides arcas mylotes, Anthanassa drusilla lelex, Eueides aliphera, Heliconius sappho leuce, melpomene rosina, erato petiveranus, sara fulgidus, Melinaea ethra lilis, Mechanitis polymnia isthmia, Leucothyris paula, Antirrhoea miltades, Emesis lucinda. From Cahuita, Limón Province, June 16, Anartia fatima, Quadrus cerialis, Pyrgus sp.

MOTHS: From El Pacifico, Guanacaste Province, June 5-7, Manduca rustica, lefeburei, florestan, brontes, lucetius nubila, Cocytius antaeus, Sphinx merops, Erinnyis lassanxi, Pachylia ficus, Pachylioides resumens, Eumorpha satellitia, Xylophanes anubus, turbata, porcus, tersa, Perigona lusca, Epistor ocypete, Callionima falcifera, Eacles imperialis, oslari (??), Sphingicampa quadrilineata, Othorrene molina, Automeris rubescens, Citheronia lobesis, Dirphia arcaei, Colex apulana. From Monteverde, Puntarenas Province, June 8-10, many of the aforementioned spp plus Manduca sesquiple optima, Adhemarius gannascus, Protambulyx strigilis, Xylophanes ceratomioides, acrus, crotonus, germen, Callionima parce, Nyceryx exima, Aellopos clavipes, Othorrene purpurescens, Pseudodirphia triangulum, Dysschema meriamne. From La Selva, Heredia Province, June 12-14, Manduca dalica, Adhemarius dentoni, ypsilon, Erinnyis ello, Xylophanes titana, Hemeroplans triptolemus, Rhyscynthis hippodamia norax, Colex ?apulana.



ZONE 13 SOUTH AMERICA. Coordinator: Boyce A. Drummond (BD). Contributors: Keith S. Brown, Jr. (KS), Charles V. Covell, Jr. (CV), Thomas C. Emmel (TE), Ronaldo B. Francini (RF, via KB). Keith Brown's annual report provides new information on places and projects reported in past Season Summaries. These include a return to Colombia (see 1987 and 1988 Summaries) and updates on several longterm projects in SE Brazil, especially on the Papilionidae and Acraeinae (see

Summaries for 1984-1988). Of special interest is KB's trip to southern and western Acre, Brazil's western-most state, to evaluate endemism and diversity. The remaining reports this year come from 3 Holbrook Travel Lepidopterists' trips organized by Tom Emmel: one to Bolivia, reported by Charlie Covell, and two to Rondonia (for more information on this area, see Tom Emmel's illustrated report on the first of these two trips in the May/June (#4) 1989 NEWS, pp 53-55).

COLOMBIA. All records by KB.

NARINO. Exploration of the La Planada area revealed a mixture of west coast and central-valley species, and some very unusual local species, including many cloud-forest ithomiines (at La Cascada, across and up the valley), especially in the Oleriini, Hyaleena minna, and a most unusual female Altinote that could easily be called a Bematistes (African). North of Pasto, near Taminango, a colony of Heliconius erato chesteronii was found, confirming its presence in the dryer areas of the Rio Patia drainage, far south of the Cauca Valley; many other typical tropical forest species could also be seen in the isolated oases of this region.

META. Near Villavicencio, a long list of butterflies included Haetera (maclennania x piera), Hyposcada sinilia, and Epiphile lampethusa in a site where Agrias amydon and Papilio bachus were later seen. In the Cubarral area, papilionid mark-recapture (60 Eurytides serville acritus, larva seen on Gutteria, recaptures up to 8 km away; 3 E. phaon, 3 E. xeniades halex, 8 E. leucaspis, 1 Battus latinus) confirmed large population sizes and long-distance foraging, and the list included such unusual species as Morpho perseus, Melinaea messenina, M. marsaeus rileyi, M. maenius isocomma, Callithomia villula, Godyris duillia (at 800 m), Altinote neleus, A. alcione, A. stratonice, three species of Philathria "dido", P. pygmalion (westernmost record), 10 species of Phyciodini, Agrias amydon, many unusual Riodininae and Theclinae, Parides anchises new ssp. and P. neophilus (many reared from larvae on same Aristolochia), Papilio zagreus, and P. isidorus brises.

BRAZIL. All records by KB except those from Rondonia (TE and BD). KB reported winter as wet plus spring as dry in SE Brazil. For Rondonia, TE (based on records kept by Harald Schmitz) reported that the winter dry season (May-September) was remarkably wet and that the spring wet season (October-December) was unusually dry.

SOUTHEAST: Espirito Santo (ES), Rio de Janeiro (RJ), São Paulo (SP), and Minas Gerais (MG). ACRAEINAE - RF's continuing studies of Actinote found that A. genitrix and A. discrepans were especially abundant in Japi (SP) in April, and they have turned up a number of undescribed species. New species found in Japi are all univoltine (in December). PAPILIONIDAE - Long-term studies continued (see 1988 Summary, pp 36-37), with the biological part concentrated on hybridization of Papilio; fair compatibility was demonstrated between P. glaucus, P. menatias cleotas, and P. scamander (Pterourus); between P. torquatus, P. himeros, and P. hectorides (Priamides? but see next group); and between P. anchisiades and P. astylalus (Heraclides), but not between any of these groups; no adults were obtained. Mark-recapture studies involved 20 species and 1548 individuals in four localities; 306 were recaptured, and estimated population sizes included (in Campinas, SP), P. scamander = 35 on 5 April, P. astyvalus = 816 on 5 April, P. hectorides = 121 on 5 March, P. torquatus = 616 on 27 February (an exceptional year); and (in Linhares, ES); P. astyvalus = 25 on 16 April (cut way back by parasites, which, however, did not eliminate the much rarer P. himeros as had been feared); and (in Japi, SP), Battus polystichtus = 82 on 20 March, on high Bombacaceous flowers, and P. hectorides = 30 on 20 March. Maximum survivorship between captures varied from 12 to 25 days, and many species showed movements of several km, in as little as two hours; two P. astylas were recaptured on seven subsequent occasions. Many P. himeros were reared through (including by Luiz Otero in Rio) on Esenbeckia leiocarpa. One bilateral (partly mosaic) gynandromorph of P. torquatus behaved like a male on flowers, but did not chase other males, had only one valve and a full load of mature eggs, but would not oviposit on E. leiocarpa (very easy in most females). Essentially all species had disappeared by mid-May; a wet winter brought out irregular broods in September but a dry spring kept populations low through December.

SÃO PAULO. The Campinas skipper census, on abundant composite flowers on 7 April, gave 128 species (vs 112 in 1988) in a total of 273 Rhopalocera (240 in 1988) in a single day's count (one observer covered the edges plus interior of a 240-hectare reserve). No Phocides were seen, but three species appeared on 26-27 November (palemon, pygmalion, and the rare charon), perhaps moving through. Japi gave excellent Hesperidae (Phocides pialia common, and many crepuscular species) on high Chorisia (Bombacaceae) flowers in late March, (along with abundant Papilionidae, including females of P. mentius cleotas) and generally good skippers all year long, when flowers were blooming. The total Japi list will be published in 1990, in a book on the region, with color plates of all 350 species found to date. Morpho rhetenor was tentatively confirmed for the Cajuru forests in N. São Paulo in two sightings, on 11 March and 1 April, always with the common M. anaxibia.

SÃO PAULO/MINAS GÉRIAS. The high mountain range between Joanópolis and Extrema showed (in March-April) common Phycoides orticas, Hyalenna pascua and Episcada carcinia & P. philoclea (larvae on Solanum, sections Anthoresis and Geminata, respectively), Catonephele sabrina (typical of such high mountain areas, not on coast), Oenomaus rustan and "Thecla" deniva and T. celelata among many other good Theclinae, including Arcas ducalis ovipositing on Rollinia emarginata (Annonaceae), Battus polystichtus larvae on Aristolochia triangularis, and P. scamander on Persea rigida (also used by P. m. cleotas in Japi, with larvae and pupae identical to those of P. victorinus, suggesting conspecificity); Actinote mamita was feeding on Erigeron (it uses Mikania and Eupatorium in Campinas).

MINAS GÉRIAS. Parides bunicus diodorus was common in the new Serra do Cipo National Park, 22 February.

ESPIRITO SANTO. Several Eurytides species were flying very late in fall (16 April); Papilio himeros colony held up under assault of immigrant P. astyvalus, strong in April and November.

PERNAMBUCO. Philaethria dido taken in Agua Azul in January showed the usual 67 chromosomes of the individuals from farther north, not the 88 of the coastal dido in Paraíba and those in nearby Tiama, suggesting polymorphism of number in this region. Many Morphos seen (menelaus, epistrophus hikolajevna, hercules?-new ssp) and two Agrias seen on baits, but no more Scada karschina delicata were recorded this year.

AMAZONAS. The region of the new oil exploration camps on the rivers Tefé, Urucu, and Coari, south of Tefé, was explored in May (end of rainy season, not a good time of year for butterflies). Some unusual Hyposcada and Oleria were found, but in general the area was very poor in Ithomiinae, with minimal endemism (corresponding to the poor soils and much flooding). P. dido (88 chromosomes) and Heliconius elevatus were using a Passiflora (near ambigua) with yellow stipule tips and petiolar glands imitating heliconian eggs. Many Eurytides ariarathes larvae were found on a common edge Annona species. Other interesting species in the region included Cithaerias aurorina, Pierella hortona, Amphidecta callioma, Chloreuptychia hewitsoni, Magneuptychia nortia, Morpho adonis, Antirrhaea philopoemon, Neruda metharme (with red rays on upper hindwing), a larva of Catonephele acontius on the common Alchornea, a fair variety of Riodininae, and many Saturniidae on lights at the base camp (mostly Hylesia and diverse Ceratocampinae). In Manaus, larvae of P. echemon were obtained on a common Aristolochia (Taruman area); when mature, they were variably spotted with bright chrome yellow on all segments, the brightest larvae yet seen in this genus.

RONDONIA. Two lepidopterist trips to Rondonia occurred 15-26 March and 1-12 November, 1989. The March trip, led by TE, BD, and Olaf H. H. Mielke, was reported in the July/Aug. (#4) 1989 issue of the NEWS; the November trip was led by TE. Both trips were centered at Fazenda Rancho Grande (El 180 m) about 62 km SE of Ariquemes, an area of rolling hills

where the low areas are being cleared for pasture and crops and the hilltops left in forest. Although the March trip was during the wet season, weather was remarkably cooperative, providing mostly sunny days for the first time since the start of the rainy season; rains were frequent and heavy, but mostly at night. Likewise, the November trip, scheduled during the first month of the rainy season, enjoyed good weather, with light rains on only two evenings. Moth collecting was only fair in March, but was outstanding on the two rainy evenings in November, with thousands of moths coming to a single sheet behind a mercury vapor light. In terms of butterfly collecting, the most notable difference between the two trips was the much greater number of Nymphalidae found in the forest in November, especially species attracted to bait (human feces, rotting bananas, papaya, etc.). Very abundant were Anaea, Prepona, Batesia hypochlora (up to 4 individuals coming to a single bait at the same time), Catagramma, Hamadryas, Catonephele, Nessaea, Callicore, Dynamine, Eunica, and many Brassolidae and at least 6 species of Morpho. The expected increase in diversity and numbers of Papilionidae and Pieridae between March and November did not occur, perhaps because of the lack of rain early in the spring wet season (October-November). BD found Ithomiinae patchily distributed in the deep forest in March, with large numbers of individuals, with up to 20 species, congregating beneath wild fig trees to feed on bits of fruit spattered on vegetation and on the forest floor; these sites were also good for Brassolidae and Morphinae. Spectacular numbers of Hypothyris euclea were attracted to dried heliotrope (Heliotropium indicum) (up to 200 on one small plant), but other ithomiine species in the area were not attracted, except for an occasional Godvyris (and a few Ctenuchidae). In November, TE did not find a notable increase in abundance or diversity of Ithomiinae over March. In March, approximately 100 species of Riodinidae were taken. At least 80 new species of riodinids were taken in November that had not been encountered in March and this number probably is highly conservative. The total count for Riodinidae for this small area of Rondonia now approaches 200 species, and the total number of butterfly species may exceed 1500 species, rivaling Tambopata in Eastern Peru.

ACRE. KB made a trip in October to this western state to evaluate endemism and diversity in extractivist, indigenous, and biological reserves in western and southern Acre. Endemism tended toward high values for Inambari in the southeast, very low in the southwest, and moderate for Ucayali in the extreme west, as predicted. Diversity was exceedingly high, approaching that of Jaru (Rondonia, Brazil) and Tambopata (eastern Peru), in all regions, also as predicted; the only exception was the slopes and top of the Serra do Divisor, which supported poor vegetation and showed low diversity, although some nice species were present (e.g., Synargis victrix, "Thecla" athymbra, Orimba cruentata, Stichelia sp., several Theope on a hilltop at 500 m). In the extractive reserve near Xapuri were found: 31 Ithomiinae (some new subspecies), Agrias claudina, Cunizza hirlanda, Pieriballia mandela, Parides pizarro kuhlmanni (both sexes, but no eggs obtained), P. echemon empistocles, (common, both sexes, eggs, and larvae obtained), an unusual Andean-type "Thecla," and clouds of Panacea prola migrating S to W throughout the region. Secondary forest could be high and nice-looking in this area but had a very poor fauna, perhaps due to long, hot, dry seasons. Indian reserves west of Cruzeiro do Sul (around the Serra do Divisor, now a National Park) gave very long lists of Ithomiinae, abundant Nymphalinae; at the Cachoeira Pedernal (S tip of the Serra do Moa) were found over 200 species in one day, including Napeogenes duessa, Hypothyris semifulva angelina, Nessaea hewitsonius & N. obrinus, Perrhybris viardi, many Riodininae but few Theclinae. The Tejo Extractive Reserve in the SW corner of the state gave 380 species in four days, including three Antirrhaea (philopomon, taygetina, watkinsi), ten Brassolini, Manataria hynetho and Taygetis mermeria (with larger, rounded wings) among over 50 Satyrinae, common Lycorea pasinuntia (variable orange to yellow), abundant Arthyrtes merchantis (also very variable as with many others of the 59 Ithomiinae recorded), abundant Napeogenes aethra deucalion, and common N. duessa, seven species of Hypolelia, Doxocopa pavon, Catacticta sisamunus (at 200 m!), Patia orise and three other mimetic Dismorphia, Eurytides xynias in sun-flecks in the middle of the woods, Phyciodes pelonia and P. hercilia acreana, Danaus plexippus megalippe, 73 Riodininae and only 20 Theclinae (but including T. bosora), plus 40 Hesperidae. Obviously, the butterfly fauna remains diverse under such low-intensity sustainable usages of tropical forest resources.

BOLIVIA. CV reported on his collecting activities during this Holbrook Travel trip, May 18-29, 1989. CV's personal catch during the 10 days of collecting included 1,168 pinned moths, 40 papered moths, and 644 butterflies. Butterfly specimens (not number of species) taken included 49 Hesperidae, 1 Papilionidae (Parides), 53 Pieridae, 167 Lycaenidae (all hairstreaks except for 7 blues), 91 Riodinidae, 122 Nymphalidae (numerous Callicore sonorea, Parasema spp., Phyciodes, Adelpha, Eunica, Doxocopa, Hamadryas, etc.), 42 Heliconiini, 72 Ithomiinae, 7 Morphinae (all M. peleides), 21 Satyrinae, and 2 Danainae.

SUD YUNGAS. May 18-25 was spent in the vicinity of the village of Puente Villa, near the Rio Undavi, 1300 m elev, in fairly cut-over hilly forest and farm territory, with excursions to nearby Rio Taquesi (1360 m elev). Hairstreaks were abundant atop trees (taken with a long-handled net) and on poinsettia blossoms. Those taken or photographed included: Thecla echelta [rare], Thereus comana, T. lausus, Calycopis devia (?), Ocaria elongata, Michaelus jebus, Micandra platyptera, Erora oleris (?) [IDs by Robert K. Robbins]; Rekoa meton, "Thecla" rustan, Cycnus phaleros, "Arawacus/Polynepheles intermediate," Ocaria ocrisia, Strymon crambusa, Chlorostymon simaethis, Arawacus dolyus [IDs by CV]. May 25-27 was spent collecting 9 km N and 14 and 21 km E of Chulumani. Hairstreaks taken included: Thecla imma, T. vanessoides (=hygela) [IDs by R. K. Robbins] and thereus lausus and Cycnus phaleros [IDs by CV].



MISCELLANY

A POSSIBLE STATE RECORD IN OKLAHOMA FOR AMBLYSCHIRTES ALTERNATA

Amblyscirtes alternata (Grote and Robinson) has been reported in the southeastern United States westward to eastern Texas. I have seen no literature references to this species occurring in Oklahoma.

I collected in the Norman, Noble and Lexington region in south-central Oklahoma from July 2 through 9, 1980, publishing a list of several species collected during that visit in the 1980 Season Summary. One such species was Amblyscirtes belli H. A. Freeman. A male in my "belli" series stood out as different or atypical: it lacked FW postmedian spots, had more whitish fringes and differed on the HW below by having a more "purplish" coloration along with very diffuse light spots. Yet the specimen did not match illustrated males of alternata above in the literature and was collected outside the range of that species. Adding to the mystery was a similarly marked male (which proved to be A. alternata) I collected at Lake Tyler, Smith County, Texas, on July 11 1980.

During a visit to the Natural History Museum of Los Angeles County in 1989 I examined their collection of *A. alternata* to examine the range of variation of that species and *A. belli*. My Oklahoma male (collected near Noble on July 3, 1980) matched several of the *alternata* specimens and convinces me that is the correct determination (though none of the specimens in question have been checked by a specialist) and that *alternata* does occur in Oklahoma. Further investigation of my "belli" series turned up a second Oklahoma specimen, a female collected at Noble, Cleveland County ... on July 7, 1980.

The majority of my *Amblyscirtes belli* and *alternata* specimens were collected at Noble Municipal Park in deep gullies or ravines in woodland surroundings. These skippers were fairly common ... ten of the *belli* in my collection series have Noble labels and I did not bother to collect all *Amblyscirtes* I encountered, not realizing two species were present ... not one. I would suspect *A. alternata* is fairly common at this locality unless human influence has altered the habitat there since 1980.

I strongly encourage other lepidopterists who live in that region to visit this site to corroborate the presence of *A. alternata* in Oklahoma ... then published any positive finds in the Season Summary.

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TWO SEASONS OF MOTH COLLECTING IN THE SCHEFFERVILLE REGION, QUEBEC

This paper is intended as a short account of two seasons of moth collecting near Schefferville, a town situated within Quebec's subarctic vegetation belt. The author has spent two 4 month periods in 1988 and 1989 working at the McGill Subarctic Research Station, during which time he also collected moths for Mr. Louis Handfield, a collector living in Mont St. Hilaire and specializing in the lepidopteran fauna of Quebec.

The Schefferville region has attracted considerable attention on the part of lepidopterists owing to its unique location at the centre of the Quebec-Labrador Peninsula, well-removed from other settlements. Monroe (1951) was the first to investigate the area when it was first opened up for mining. He reported seeing and collecting ten species of butterflies, none of them endemic. Hensel (1965), followed by Anthony (1969), Brower (1969), and more recently by Koponen (1980), also collected butterflies in the region and published accounts of their work. Monroe, however, is the only known lepidopterist to have collected moth specimens in the region, although he does not report any aspect of this in published work. Hence, not a single paper has ever been published to describe the region's moth fauna. This account will attempt to fill this gap.

The bulk of our collecting work involved the use of two blacklight traps. One of them was located against the east-facing wall of the McGill Research Station's library (the "station trap"), in an open area with a few low-lying shrubs, mainly *Betula glandulosa*. The other trap (the "seismic trap") was set in a high shrub patch adjacent to a typical spruce-lichen woodland about 4 km east of the town site. To complement the trap's yield, moth hunting with nets was often performed throughout the two field seasons at various locations within a 50 km radius of Schefferville. The traps were visited on a daily basis, and short daytime-collecting outings were held about once a week on average.

The extended collecting time framework - from early May to the end of August - was a great asset for obtaining a whole succession of moth species throughout the warm season. By comparison, Hensel and Monroe were very limited given their short two-week and six-week stays, respectively. In addition to the two latest field seasons, Mr. Handfield has supported moth collecting activities in Schefferville since 1980. It is also worth mentioning that Henry Hensel returned to Schefferville for a four-week period, 25 years after his first hunting venture in the area; this time, however, he focused on the moth fauna instead of butterflies. The following results are preliminary in nature

for a large portion of identification work from the last two field seasons has yet to be completed. It is worth noting that a landmark field-guide to be published by Mr. Handfield in 1990 will finally provide detailed information on the lepidopteran fauna of Quebec.

A partial list of common noctuid moth species in the region would include *Agrotis patula*, *Anarta melanopa*, *Anomogyna fabulosa*, *A. homogena*, *A. imperita*, *A. laetabilis* and *A. mixta*, *Astrapetis sutrina*, *Caloptusia ignea*, *Diarsia dislocata*, *Lasiestra phoca*, *Eurois occulta*, *Euxoa dissona*, *Hillia iris*, *Lasionycta subdita* and *L. taigata*, *Merolonche ursina*, *Mniotype miniota*, *Pachnobia atrata*, *P. tecta* and *P. scropulana*, *Polia ingravis*, *P. rogenhoferi* and *P. secedens*, *Rhyacya quadrangula*, *Syngrapha diasema*, *S. interrogationis* and *S. u-aureum*, *Sympistis melaleuca* and *Trichoplexia exornata*. In the case of the geometrids, *Aspilates conspersarius*, *Carsia sororiata* (spp), *Dasyuris polata*, *Entephria aurata*, *Epirrhanthis substriataria* and *Hydriomena furcata* were found to be abundant. In the case of the arctiid, only *Apantesis quenseli* has been found. Let us at present turn to the highlights of the 1988 and 1989 field seasons.

Five specimens of *Hepialus hyperboreus* were collected between the third week of August and early September in the last two years at the seismic trap. This species, which has also been observed in the vicinity of Mingan (North Shore), St-Vital (Abitibi-Temiscamingue) as well as in the James Bay region, was unknown in the Schefferville region prior to 1985, and from that year specimens were collected in small numbers every fall up to 1989.

In a first-time experiment, carrots were set on the ground in late August in the hope of obtaining *hyperboreus* caterpillars, which have never yet been observed nor described by entomologists. Although the experiment was not successful - possibly due to unfavourable climatic conditions - it will probably be attempted again in future collecting seasons. Another interesting find is the *Leucobrepheos brephoides* for which three specimens were collected on May 4, 1989. These constitute the first recordings ever for the region. These small hairy geometrids, also found in the Saguenay region and in Laurentide Park, north of Quebec City, were flying on a warm sunny day over nearly one meter of unmelted snow. Two hydrologists from York University reported seeing other specimens on a few occasions near a fen in the days preceding the author's arrival in Schefferville. One more exciting development was the capture of the two *Euxoa westermanni* in the station trap on July 4 and August 1, 1989, the specimen of July 4 being the first recording ever in Quebec. But perhaps the most interesting discovery of all was the capture of one *Lycia rachelae* on May 22, 1989, in the seismic trap. This specimen, in fact, is the first recorded incidence of the species in a region east of Manitoba in Canada. Since no other specimens have been obtained in the eight years of moth collecting supported by Mr. Handfield, it is conceivable that the specimen was trapped by accident for it is probably not attracted by light. It is interesting to note that the occurrence of noctuids in the traps is predominant during even-numbered years, while during odd-numbered years the incidence of geometrids is the highest.

Much collecting work remains to be done in subarctic Quebec. In particular, more daytime collecting work is required in order to sample day-flying moth species and those that are not attracted by light at night. Another suggestion for future research would be to set up a blacklight trap at a point elevated above the Schefferville valley so as to increase the chances of collecting other species unknown in the region. I sincerely thank Mr. Handfield. Without his help this paper would not have been possible.

* * * * *

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Louis Laroche
St-Hyacinthe, Quebec

PROGRESS IN DESIGNATING MONARCH BUTTERFLY AS THE NATIONAL INSECT

A joint resolution, H. J. Res 411, has been introduced in congress by Congressman Leon Panetta of Santa Cruz, California, designating the monarch butterfly as the national insect. Members of the Society who are in agreement with this promotion should write to their congressmen and senators immediately urging them to support this resolution. For further information, contact Douglas W. S. Sutherland, Chairman, National Insect Subcommittee, Entomological Society of America, 9301 Annapolis Rd., Lanham, Maryland 20706-3115 or phone (703) 557-2224, days, or (301) 345-6119, evenings.

AN UNCOMMON COMMON SULFUR

Every Naturalist has a story, or a dozen stories, about the sighting of a strange bird or butterfly or other "beast" which can't be confirmed. Sometimes one has only a fleeting glimpse of the female Diana before it flies out across the lake, never to be seen again. Sometimes one examines the immature Northern Wheatgrass for all of a minute, trying to remember every detail to ensure that the eyes are not "playing tricks." If lucky (very), one has a camera and can get a picture.

Not too many years ago, avid birders would collect the bird with a shotgun and have the skin as proof of a rarity. Currently, the camera is the preferred method of recording that rarity for posterity. Luckily, the public's "hue and cry" which hinders the ornithologist from collecting with a shotgun has not yet completely banned the Lepidopterists' net (except in some states, some parks and some countries).

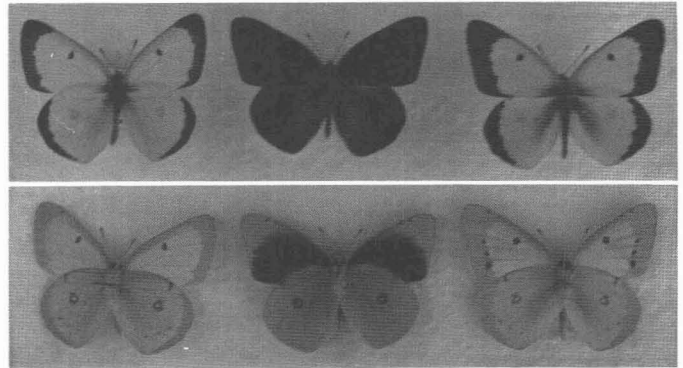
August 9th of 1989 found me walking along a gravel road a few miles west of Ottawa, looking for monarchs to tag, on behalf of the Xerces Society. I had my net and a sandwich and a couple of cokes plus the usual paraphernalia. It was a lovely summer day, only 75°F, with clearing skies and westerly breezes – a welcome relief after a hot July and early August.

The Common Sulfur, *Colias philodice*, was indeed common along the road, gathered at damp spots and chasing over the fields. The Orange Sulfur, *C. eurytheme*, was also present, but as usual hereabouts, there were only a few. This area seems to be at the northern edge of the range of *C. eurytheme*. Some years we don't find any. They appear to hybridize freely with *philodice* and we have many pale orange colored hybrids. I was pleased to net and paper a lovely orange male, my first of the year, and I was on the lookout for another.

Across the road, in front of me, about knee height, flashed a yellow and black butterfly. "Strange" butterfly my senses said. Then logic prevailed and the senses were overruled in favor of the greater probability that it was a grasshopper. However, my senses were not convinced, so a cautious stalk was begun toward the insect, which had alighted among the roadside grasses. My senses were vindicated. There, wings folded, was a bright yellow sulfur. The net was clapped down over it, the mesh held aloft and the sulfur was captured. A quick pinch through the net and an envelope was soon holding the "prize," for a quick examination soon revealed that such it was. With wings folded, the underside appeared to be that of a normal male sulfur. A slight shifting of the wings, however, revealed that the portion of the forewing overlapped by the hindwing

was black. The upperside was the real surprise; the entire wing surface was black. So dark in fact that the usual black edges on the forewings were lighter in color than the rest of the wings. The body color on the underneath was normal yellow; on the top it was black.

On the next day I visited with Dr. Don Lafontaine, our local "lepidoptera expert" with the Dept. of Agriculture. He was pleased to see this rarity and thought it most probably was a *C. philodice*. It is certainly a rarity in Ottawa, Ontario, but for all I know, such an uncommon Common Sulfur may be less unusual in some other areas of North America. Each year there must be a few billion sulfurs on the wing, with a new generation every 4 weeks or so in the warm months.



From left to right: normal *C. philodice*, black *C. philodice*, *C. eurytheme*, both upper sides (above) and undersides. Data for insect on left is Kanata, Ontario, Aug 25, 1986; For the other two specimens, Connaught Rifle Range, Hereberg Rd, Kanata, Ottawa, Ontario, Canada, Aug 9, 1989; All with leg. J. Holliday.

Do you have an odd sulfur in your collection? Has anyone a "Black" similar to this "prize"? If so, please let us know in the pages of the NEWS of the Lepidopterists' Society. I'm sure that the editor, June Preston, will be only too pleased to report on any others.

Jack Holliday
Ottawa, Ontario, Canada

MONARCHS IN THE NEWS

An item in the Jan. 11, 1990 edition of the San Diego Union was reprinted in the Montrose Daily Press and eventually made its way to the NEWS Editor's desk. It was about a monarch butterfly tagged and released by Society member Paul Cherubini in Olathe, Colorado on Sept. 30, 1989. Mr. Cherubini recaptured this same monarch on the campus of the University of California on Jan. 1, 1990 after having been alerted of its presence by friends who discovered it on Dec. 30. He had to drive to San Diego from his home in the Sierran foothills town of Placerville before he could add this prize to his collection, providing documentary proof that some monarchs do migrate from Colorado to Southern California. The approximately 690 miles the butterfly traversed broke the old record for west coast monarchs of 660 miles set in 1988.

The San Francisco Examiner, Home edition of January 9, 1990, carried a front page story with the heading "BUTTERFLY ROOSTS IN PERIL, Monarch, flutter by, city says." The article was written by Eric Brazil of the Examiner staff and was accompanied by a large color photograph by staff photographer John Storey depicting a host of monarchs clinging to the leaves and branches of an eucalyptus tree. The City Council of Pacific Grove – "Butterfly Town, USA" – has approved subdividing one of the city's last two winter roosting sites for the monarch butterfly. This city on the Monterey peninsula celebrates the monarch with a butterfly parade on its main street and makes molesting a monarch a crime that carries a \$500 fine.

Development since World War II has felled thousands of the Monterey pines and eucalyptus trees in the area, leaving only two roosting sites. One of these is in city-owned Washington Park, but that site hasn't attracted any monarch clusters this winter. The other site is a privately owned 2.7 acre area about a quarter mile from the Pacific Ocean and next to the Butterfly Grove Inn. It is the oldest known monarch overwintering site in California according to Katrin Snow of the Xerces Society. However, the 4-3 vote of the City Council for approval of the subdivision of the property does have some restrictions. The property cannot be developed until the Pacific Grove electorate has had a chance to vote on a bond issue to purchase it. The mayor estimates it would cost about \$1.5 million. It would require a two-thirds majority to pass such a bond issue. The President of Friends of Monarchs, Ro Vaccaro says "We've got to buy that piece of land. We don't want to change our name to 'Bulldozer Town, USA'." The environmental impact statement on the property noted that leaving the site undeveloped would help the monarch habitat. The statement also suggested a plan for developing the property that would minimize harm to the habitat but this plan was rejected by the council, although a condition for approval did require that the city be given a conservation easement of about 1.5 acres of prime roosting habitat.

[Ed. note: And this they call progress?]

A FORTUNATE BIT OF COLLECTING

I wish to share with the Society membership the fortunate bit of collecting I had last summer. We were near the Old Man River in Alberta on July 18, 1989 and it was 4:15 in the afternoon, so we were thinking of heading back to Cranbrook, about 130 driving miles distant. As it is community pasture in that area, a herd of cattle had just meandered up to the trail. Over the herd of cattle I saw a white butterfly soaring out of the pasture. It crossed the road and alighted in a field. I got out my net, all the time keeping my eye on the vicinity where it had lighted. When I got close, a *Parnassius* flew up and I netted it and then saw another one rise about 10 feet away. I netted it also and behold, it was this second one that was the catch of the year for me. At first I had been a little leery of the cattle, but having been raised on the farm in Manitoba, they looked pretty tame.



Everything worked out beautifully and the photograph shows my catch of the year, a beautiful bilateral gynandromorph of *P. phoebus*.

Lloyd J. Janz
Cranbrook, B.C., Canada

NEWS FROM THE CALIFORNIA MONARCH STUDIES

A change has taken place among the ranks of the California Monarch Studies. Chris Nagano, founder and leader of the California tagging efforts has made a career move and now is employed by the U.S. Fish and Wildlife Service as the invertebrate specialist in the Endangered Species Division.

He has felt it best to sever all involvement with the California Monarch Studies to prevent the possibility of a conflict of interest. Walter H. Sakai has assumed the leadership role. He has been involved with the project since its inception in 1985. He will be assisted as editor of DANAUS by Jan Schrupf.

Special Techniques

TIPS ON PINNING

Some of us older collectors have difficulty positioning the tip of a black pin on the surface of a dark specimen's thorax prior to insertion because of our "senior citizen eyes." I find that if the pin tip is coated with a smidgen of white correction fluid, with good light I can then differentiate between the thorax and the pin point.

When trying to hold tiny specimens so as to spread the wings and insert the pin, I find I need one more hand than most people have. My solution is to hold the specimen in a pair of bent forceps, the tips of which are padded with small sections of adhesive-backed foam, 1/4 inches wide, such as is commonly used in insulation in Northern areas. The strips can easily be attached to the insides of the tips and then trimmed with scissors. With the foam in place, specimens are held gently but firmly. Next, a second small forceps can be balanced on the edge of a table and weighted or taped down with the tips over the edge so that the tips can be used to hold the wings open. The padded forceps, which because of the foam, must be forcibly opened, hold the specimen by their own spring tension. Holding the padded bent forceps in one hand with the specimen held against the tips of the other forceps to hold the wings open leaves the other hand free to insert the pin.

Jack Holliday
Ottawa, Ontario, Canada



Notices

ECOLOGICAL INVENTORY FIELDCREW NEEDED

The Massachusetts Audubon Society, Lincoln, MA, is looking for a field crew. Crew members include 2 botanical interns, 1 aquatic ecology intern, 1 invertebrate ecology intern, 2 vertebrate ecology interns and 1 draftsman. Travel statewide to assist a variety of ecological inventory and monitoring projects on Massachusetts Audubon sanctuaries. Experience and strong skills needed in one of the following areas: mapping; botany, particularly Massachusetts flora; aquatic ecology; small mammals studies; birding; or entomology, particularly lepidoptera. Applicants for all 7 positions should be upper level undergraduates or graduate students, familiar with sampling techniques and the ecology of Massachusetts. Housing and stipend provided. Own transportation required. Starting date for botanical fieldcrew: June 18, 1990 for 10 weeks. Starting date for all other positions: May 1, 1990 for 16 weeks. Closing date: when filled. Interviews will begin after March 1, 1990. Send cover letter and resume to Jeanne Anderson (plants, mapping), Betsy Colburn (aquatic), or Nancy Sferra (all others), Conservation Department, Massachusetts Audubon Society, Lincoln, MA 01773. An Equal Opportunity Employer.

FIELD BIOLOGIST POSITIONS AVAILABLE

The Massachusetts Audubon Society has 3 17-week Field Biologist positions available for current graduate or post-graduate students to prepare ecological management plans for 3 wildlife sanctuaries within the state. Applicants should be independent workers, experienced in field sampling techniques, familiar with New England natural history and skilled in preparing reports and maps. A strong botanical background is preferred. A stipend is provided but your own transportation is needed. Closing dates: when filled. Starting dates: May, 1990. Interviews will begin after March 1, 1990. Please send cover letter and resume listing references. Massachusetts Audubon Society is an Equal Opportunity Employer. The three wildlife sanctuaries are listed below along with the contact person. The address in all 3 cases is Massachusetts Audubon Society, South Great Road, Lincoln, Massachusetts 01773.

Ipswich River Wildlife Sanctuary in Topsfield, MA.
Contact Jeanne Anderson.

Laughing Brook Wildlife Sanctuary in Hampden, MA.
Contact Nancy Sferra.

Sesachacha Heathland Wildlife Sanctuary on Nantucket Island. Contact Dr. Peter Dunwiddie.

PHOTO OF COLIN WYATT NEEDED

I am writing a history of Australian butterfly collecting and would very much like to include a black & white portrait of Colin Wyatt. There appears to be no published photo with any of his obituaries and my searches within Australia and England have not been fruitful. If anyone can help me, full acknowledgment will be given and I am happy to reimburse any expenses. Please contact M. S. Moulds, 16 Park Ave., Waitara, NSW 2077, Australia.

1990 ELECTION RESULTS

Members cast a total of 462 votes in the election of officers and 477 votes for Honorary Life Members. Results are tabulated below, with successful candidates indicated by an asterisk (*). All officers assume office in June at the Annual Meeting in Milwaukee, Wisconsin, except for the Treasurer whose term officially began January 1, 1990 and who actually assumed his duties on February 15, 1990. The Society extends its congratulations to the winners and thanks all of the candidates for their willingness to serve the Society. The final vote tabulation was made on February 6, 1990 by the Secretary, William D. Winter and is respectfully submitted by him.

PRESIDENT ELECT		
*Ron Leuschner	448	
VICE PRESIDENTS (3)		
*Floyd W. Preston	428	
*Christer Wiklund	422	
*Richard I. Vane-Wright	432	
TREASURER		
*Fay H. Karpuleon	437	
EXECUTIVE COUNCIL MEMBERS-AT-LARGE (3)		
*Karolis Bagdonas	408	
Deane Bowers	1	
*Steven J. Cary	422	
Lawrence Gall	1	
*Stephanie McKown	428	
John Rawlins (already a member)	1	
Alma Solis	1	

HONORARY LIFE MEMBERS

(Affirmative vote of 80% of mail ballots cast is required to elect.)

*Lincoln P. Brower	445	93%
*Douglas C. Ferguson	420	88%
(total ballots returned)	477	

OFFICERS OF THE SOCIETY ARE NOW AS FOLLOWS:

Through 17 June 1990:

President
President-Elect
Immediate Past President
Vice Presidents (3)

Jacqueline Y. Miller
Ron Leuschner
Julian P. Donahue
Richard Holland
Niels P. Kristensen
J. Donald Lafontaine

After 17 June 1990:

President
Immediate Past President
Vice Presidents (3)

Ron Leuschner
Jacqueline Y. Miller
Floyd W. Preston
Christer Wiklund
Richard I. Vane-Wright

Full Calendar Year

Secretary
Assistant Secretary
Treasurer
Assistant Treasurer
Publications Coordinator

William D. Winter, Jr.
Julian P. Donahue
Fay H. Karpuleon
James P. Tuttle
Ron Leuschner

EXECUTIVE COUNCIL MEMBERS-AT-LARGE

(terms expire at annual meeting in year indicated)

1990

Dale W. Jenkins
John E. Rawlins
Jo Brewer Winter

1992

Richard A. Arnold
Susan S. Borkin
David L. Wagner

1991

John W. Brown
Mogens C. Nielsen
Floyd W. Preston (1990, then V.P.)

1993

Karolis Bagdonas
Steven J. Cary
Stephanie McKown

EDITORIAL COMMITTEE

JOURNAL Editor
NEWS Editor
MEMOIRS Editor
MEMBERS AT LARGE

Boyce Drummond
June D. Preston
William Miller
Paul A. Opler (chair)
Frederick W. Stehr



NEW BACK ISSUE SALES POLICY

Except for the last 10 years, Back Issues of the Journal are no longer available by the copy or the volume. Instead, 20 near-complete sets have been assembled and are offered as follows:

Volumes 1-33 (complete*)	\$600.00
Volumes 1-43 (complete*)	\$850.00

SHIPPING COSTS ARE ADDITIONAL

Within U.S. (Book Rate, insured)	\$25.00
Outside U.S. (Book Rate, not insured)	\$65.00

*Sets will be completed by repro of missing Journals. Out of 190 total Journals, 13 are missing (440 pgs. repro) on Set 1, and 24 missing (840 pgs.) on Set 20.

A complete set through Vol. 43 has 190 issues with 11,800 pages (includes all 7 Supplements).

The last 10 years of Journals (Vol. 34-43) will still be offered by the volume (\$30) or by the issue (\$8). Certain issues of the NEWS of the Lepidopterists' Society, mostly from the last 10 years, are also available at \$3.00 each. Ask the Publications Coordinator.

Payment, in U.S. dollars made to The Lepidopterists' Society, should accompany all orders. Send orders and inquiries to: Ron Leuschner, Publ. Coord., 1900 John St., Manhattan Beach, CA 90266, USA.



DIRECTORY OF LEPIDOPTERA CONSERVATION PROJECTS

The IUCN/Species Survival Commission's Lepidoptera Specialist Group is aware that there are many individuals and groups fostering the conservation of butterflies and moths, in many parts of the world. Many of these projects are being undertaken in relative isolation or on a very local scale, and are not widely known elsewhere. Many could perhaps benefit from increased opportunity to exchange information.

We plan to prepare a 'Directory' of Lepidoptera Conservation Projects, including both current projects and those which have been completed but for which results remain in private or unpublished reports. This will include projects such as distribution mapping, butterfly ranching, and surveys, as well as taxon-targetted, population-targetted and habitat-related conservation activities in many parts of the world. Both amateur and professional projects are welcome for inclusion and we hope to include a wide representation of current activities in these areas.

This notice is being widely distributed, with the request that each recipient brings it to the attention of other relevant individuals and organizations. Would people please submit details of projects, as follows:

- i) Title and objectives of project
- ii) Specific activities
- iii) Locality and duration
- iv) Contact person, with address (plus phone nos. and FAX, if available)
- v) Status: current, completed, planned, etc.
- vi) (A few lines on the project)
- vii) Funding source and budget (if not confidential)
- viii) A list of any reports or publications from the project

The information should be sent before the end of August 1990. It is hoped to produce the Directory within a few months of that deadline, and all contributors will receive a gratis copy. Send to Dr. T. R. New, Chairman, LSG, Department of Zoology, La Trobe University, Bundoora, Victoria 3083, Australia.

ENTOMOLOGY FIELD SEMINARS ON THE MAINE COAST

Advanced field seminars in entomology are being offered for the fourth year at Eagle Hill Wildlife Research Station, located just "downeast" of Bar Harbor and Schoodic Point on the Maine coast. The station is known for the exceptional advanced study opportunities that it offers for professional and independent field biologists and naturalists. The entomology seminars this year include:

Immature Insects - Dr. Frederick W. Stehr - June 17-23.

This seminar will involve extensive field observations and collection of specimens for lab work. It will emphasize the acquisition of 1. an ability to recognize families in the field, 2. a working knowledge of the biology of many groups, 3. preservation techniques, and 4. techniques for use of keys. Dr. Stehr is the editor and part author of the two volume *Immature Insects* (Kendall/Hunt Publ.) and is professor of entomology and director of the Entomology Museum at Michigan State University.

The Lepidoptera: Biology & Techniques - Dr. Charles Covell

- June 24-30. This seminar will involve field work and will cover techniques for collection, preparation and identification, including use of wing venation patterns and genitalia preparations for smaller species. Dr. Covell is the author of *Field Guide to the Moths of Eastern North America* (Peterson Field Guide) and is a former president of the Lepidopterists' Society and professor of biology at the University of Louisville.

Forest Entomology: Insect Survey Techniques - Richard Dearborn

- July 8-14. Participants will learn how to use and evaluate a variety of both general and species specific surveys and how to relate survey results to forest pest problems. Dr. Dearborn is a senior entomologist for the State of Maine and has spent 20 years conducting extensive insect surveys throughout

the state. He is responsible for a bi-weekly seasonal publication that summarizes the forest insect and disease conditions for the entire state.

There are other field seminars in botany, ornithology, marine biology, ecology and one in natural history illustration. The seminars are given by some of the country's leading authorities on natural history. Scholarships for the station's very intensive one-week seminars are available. For more information, please write to Eagle Hill Wildlife Research Station, Steuben, Maine 04680 or call (207) 546-2821 (evenings preferred).

BUTTERFLY WORKSHOPS FOR SUMMER 1990

Colorado will be the location for two workshops on the ecology and behavior of butterflies this summer. The first, on July 1-7, is *Biology of Butterflies*, the Ninth Annual Lepidoptera Week taught by Boyce A. Drummond and Thomas C. Emmel near Florissant, Colorado. This year's workshop will feature lectures on butterfly classification and nomenclature, field and lab techniques, close-up photography (both field and studio), butterfly ecology and behavior, mimicry and protective coloration, the evolution of diversity of local and world butterfly faunas, and instruction in writing about butterfly biology both for the scientific and popular markets. As in the past, field trips to all life zones in Colorado will expose participants to the great diversity of Colorado's butterfly fauna, with peak representation in early July of the Montane and Alpine communities. Also to be visited during the week are Cripple Creek Historical District, May Museum of Tropical Entomology, Florissant Fossil Beds National Monument, Royal Gorge on the Arkansas River, and a 13,200' peak (Horseshoe Mountain) near the Continental Divide. The workshop will be held at the luxurious Nature Place Conference Center (8500'), located 35 miles west of Colorado Springs on 6000 acres of private land (owned by Colorado Outdoor Education Center) that has been designated by the U.S. Park Service as a National Environmental Study Area. The cost for this week-long workshop is only \$595 per adult and \$451 per child (5-15) for the week, including lodging, all meals, transportation, and instruction.

The second workshop is *Of Checkerspots and Fritillaries: Butterfly Ecology and Behavior*, to be held July 13-15, 1990, and taught by Boyce Drummond. Sponsored by Cloud Ridge Naturalists, this weekend workshop will be housed in Fairplay at the base of the Mosquito Range and will focus on field interpretation of butterfly behavior and ecology in the Alpine Life Zone. Days will be spent near timberline at Horseshoe Mountain and above Hoosier Pass, followed by evening lectures in the historical Fairplay Hotel. Snow's Copper, Mead's Sulphur, and the all-black Magdalena Alpine are some of the many butterfly species to be encountered during this weekend of exploration of butterfly life at the edge of snowfields and around glacial cirques. The cost of the weekend workshop is \$175, which includes all instruction, 2 nights lodging (Fairplay Hotel), and 1 (superb) picnic dinner (does not include transportation or other meals).

For more information and a descriptive brochure about either or both workshops, please contact: Boyce A. Drummond, Natural Perspectives, P.O. Box 9061, Woodland Park, CO 80866, telephone (719) 687-6596.

IDALIA SOCIETY UPDATE

The Idalia Society of Mid-American Lepidopterists now has their official logo and logo imprinted stationery, plus membership applications are also available. A new Treasurer, Eleanor Casebolt, was appointed by the president following the resignation of the former Treasurer. Membership applications can be obtained from the Secretary, Suzette Slocumb, 219 W. 68th Street, Kansas City, Missouri 64113 or from the Treasurer, Eleanor Casebolt, 5600 E. Gregory, Kansas City, Missouri 64132. An informative Newsletter is now being sent to all members and membership is open to anyone interested in the lepidoptera.

SOCIETY PROMOTIONAL BROCHURES AVAILABLE

The Lepidopterists' Society wishes to make its promotional brochure and membership application more broadly available to the public in an effort to increase its membership. Local nature and science centers, and natural history museums, frequently have book or gift shops. These are the sites we would like to contact.

If you are familiar with such a center or museum in your area, I would appreciate having you send me its name and address, and also the name of a contact person, if possible. We shall then be able to send them a small poster to draw attention to the society, and also a supply of brochures which can be handed out to visitors specifically requesting them.

Let me hear from you now, before spring comes. This is an opportunity for you to help the Society grow.

Dave Winter, Secretary
257 Common Street
Dedham, MA 02026-4020, USA



Research Notices

● WANTED: All data pertaining to the two Noctuidae: Erythroceia hebardii and Stiria rugifrons. I would appreciate collecting locations, dates and associated habitat data, if possible. Send information to: William F. Babcock, 485 St. Andrews Dr., Akron, Ohio 44303.

● I will gladly determine ID's for SESIIDAE clearwing moths free of charge. I have the latest references. All I ask is to be able to keep some of the submitted species (one or a short series). Specimens in any reasonable condition are acceptable although perfect specimens are preferred. Sticky traps with Sesiidae are also welcome. Dr. John Holoyda, 5407 N. Oketo Ave., Chicago, Illinois 60656, USA.

● INFORMATION WANTED: Looking for behavioral information on the adult stage of the North American noctuid Amphipyra pyramidoides Gurnee (Copper Underwing) and the following European noctuid moths - Amphipyra pyramidea Linnaeus (Copper Underwing), Amphipyra berbera svenssoni Fletcher (Svensson's Copper Underwing), Amphipyra tragopogonis Clerck (Mouse Moth). Using mark-recapture techniques I am investigating localized population behavior of Amphipyra pyramidoides Gn. at sugar bait trees along a transect in the woods of central Minnesota. The focus of this work deals with sex ratios and the possible influence of sex pheromones and/or weather conditions during feeding and roosting aggregation. I wish to communicate with anyone who has any experiences, information or references of similar context relating to or about these listed moths. Please correspond to: TOM SEABOLT #303, 302 8th Ave. South, St. Cloud, Minnesota 56301, USA.

● WANTED: Specimens of Oeneis polixenes and O. norna from anywhere for comprehensive revisionary work. Also needed are any immature stages of these species, particularly the ova preserved in alcohol, for use in scanning electron microscopy in order to help critically evaluate any species differences. Any accurate, and preferably quantified, field observations of these Oeneis are also needed for analysis of behavioral differences between phenotypes that exist in polixenes. Will gladly reimburse any shipping expenses, and the purchase or premium exchange of material can be arranged. For more information, please contact Tom W. Kral, 6600 N. Galaxy Rd., Tucson, AZ 85741.

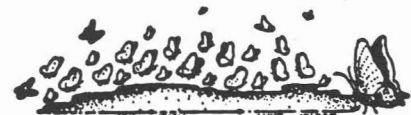
From The Editor's Desk

June Preston



Another Season Summary issue is finally behind me. In the 7¹/₃ years I have been editor of The NEWS, I have seen Zone reports both grow and shrink. I would surmise that the continued drought conditions in the Southwest, parts of the Midwest, and the Rockies are still being felt in the butterfly and moth communities in those areas. Also, as more people collect in certain areas, there should naturally be fewer records of unusual significance to report. Thus, I am not at all surprised that this is the next to shortest Season Summary that I have handled. Even though the Zone 4 report for the Rocky Mountain States is missing from this issue, the Coordinator, Ray Stanford, has informed me that it is shorter than it was last year. Again this year, the Zone 8 report for the Midwest is the longest in the number of column inches, but then, of the North American Zones, it also includes more states than any other except Zone 10 (The Northeast). This year there are no reports from Arkansas, Bermuda, District of Columbia, Mississippi, Nova Scotia or Prince Edward Island. There are no resident collectors in two of these places, but what about the other areas? However, once the Zone 4 report is printed in the next issue, we will have covered the Western Hemisphere fairly well. It is encouraging to note that in recent years Mexico and Central and South America are being better represented in the Summary and that more moth records are being reported from all areas. The Season Summary, besides denoting county and state records of occurrence, also serves as a means of communicating to the membership, especially to those new members that the Society continues to attract, some very valuable information on where certain species can be found and when to go looking for them.

Our sincere thanks go to all of you who took the time and effort to send your collecting data to a Zone Coordinator and to the Zone Coordinators themselves for an arduous and time consuming task well done. Also, many thanks to all of you who have sent me items and articles for the NEWS. Sometimes space availability does not allow everything to be printed immediately, but nothing has ever had to wait more than a year. Photographs should be black and white glossy finish if possible, since the printer will not guarantee the quality of reproduction from color prints.



Forthcoming Meetings

THE LEPIDOPTERISTS' SOCIETY 41ST ANNUAL MEETING

The Milwaukee Public Museum will host the 41st Annual Meeting of the Lepidopterists' Society from Thursday, June 14 to Sunday, June 17, 1990, at the museum in Milwaukee, Wisconsin. The preregistration form and more detailed information appears on page 11 of NEWS #1, 1990. There will be no general mailing of registration forms or call for papers. The deadline for papers is April 27th. To obtain the registration packet, send in your preregistration form immediately, or contact: Dr. Allen Young or Susan Borkin, Invertebrate Zoology Section, Milwaukee Public Museum, 800 W. Wells St., Milwaukee, Wisconsin 53233, USA. Phone: (414) 278-2758, Fax: 223-1396.

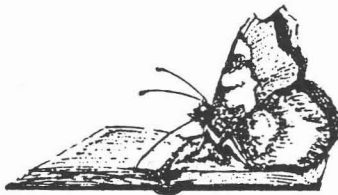
1990 PACIFIC SLOPE SECTION MEETING

The 1990 meeting of the Pacific Slope Section of the Lepidopterists' Society will be held at the Malheur Field Station near Burns, Oregon from Friday afternoon, August 3 till noon on August 6. Good collecting is anticipated in the adjacent Alvord Desert and Steens Mountains. Western members of the Society will be contacted. Others interested should contact Dr. David McCorkle, Biology Dept., Western Oregon State College, Monmouth, Oregon 97361 or phone (503) 838-8478 for more information.

SOUTHERN LEPIDOPTERISTS' SOCIETY

The 1990 annual meeting of the Southern Lepidopterists' Society will be May 11, 12 and 13 at Pigeon Key Research Station in the Lower Keys of Southern Florida. Pigeon Key is located in the middle of the Old Seven Mile Bridge south of Vaca Key. For more information about the meeting and the Southern Lepidopterists' Society, contact Leroy C. Koehn, 2946 N.W. 91st Ave., Coral Springs, FL 33065. Telephone (305) 344-3873.

Books



BOOK AVAILABILITY

As previously noted in the Nov/Dec Newsletter, a revised, third edition of Butterflies of the Australian Region, by Bernard D'Abrera, is in preparation. Originally scheduled for printing and delivery last December, the work has not yet been printed, and is now scheduled for publication in mid-March. The author/publisher has reconfirmed that BioQuip Products, long-standing, exclusive North American distributor for his books, is his sole North American agent for this title. BioQuip's early order for a substantial portion of the printing, limited to 1,000 copies, assures that the firm will have stock available to meet the demand anticipated for this work.

BioQuip is taking orders for Butterflies of the Australian Region, third edition, which will contain 422 pages, including the superb photography for which D'Abrera is known. The established price is U.S. \$255.00 (considerably less than the price being charged by a Canadian bookseller). Shipping and insurance is \$6.00 in the U.S., \$12.00 to Canada, and \$18.00 to other countries. Books shipped directly to BioQuip from the printer overseas should be available for shipment in late April. To place an order or for further information, write or call: BioQuip Products, 17803 LaSalle Ave., Gardena, CA 90248, USA. Phone: (213) 324-0620 or Fax: (213) 324-7931.



REPORT FROM THE ASSISTANT SECRETARY

Good News and Bad News report from the Assistant Secretary: The good news is that he proudly achieved his goal of making only one mistake in 1989; the bad news is that the mistake consisted of failing to publish the names of 20 new members who joined the Society in early 1989 (plus one more who chose not to have his name published). He

extends his abject and humble apologies for this oversight, and warmly welcomes them to an association of as diverse a bunch of characters sharing a single interest as one is likely to encounter anywhere.

Julian P. Donahue

New Members



- BACH, SUZANNE G.: 695 East Patriot Boulevard, #128, Reno, NV 89511.
BARLOW, HENRY S.: P.O. Box 10139, 50704 Kuala Lumpur, MALAYSIA.
CHENG, LIN CHIH: P.O. Box 61, Miaoli, TAIWAN, REPUBLIC OF CHINA.
CHERUBINI, PAUL: 4857 Summit View Drive, Placerville, CA 95667.
CHESNEY, JOHN W. (M.D.): 2416 East 12th, Joplin, MO 64801.
COOK, DAVID: Rural Route 05, Box 122, Bismarck, ND 58501.
DIAZ, ROBERT L.: Box 52, American Embassy, APO San Francisco, CA 96404.
DIEVENDORF, JUDY: 160 Hudson Avenue, Delmar, NY 12054-1030.
DINGUS, J. EVE: 69 Glenway Place, Brandon, MS 39042.
EVENSON, RAYMOND F., Jr.: 7136 South 2200 West, West Jordan, UT 84084.
FOSTER, RILEY: 801 South Wabash, Urbana, IL 61801.
GODFREY, GEORGE L. (Dr.): Illinois Natural History Survey, 172 Natural Resources Bldg., 607 East Peabody Drive, Champaign, IL 61820-6917.
GRAY, DENNIS W.: 2220 22nd Avenue, Sacramento, CA 95822-2025.
HARMS, DONALD (D.D.S.): 318 West Garfield, Laurens, IA 50554.
HASHASH, YOUSSEF: 92 Creeley Road, Belmont, MA 02178.
HEIKKINEN, KATHLEEN: 9395 Northwood Highway, Onekama, MI 49675.
HEINTZ, JAMES S., Jr.: 5 Fisk Road, Holtsville, NY 11742.
HICKS, YIN-REI: Rural Route 02, Henryville, IN 47126.
HOYNACKI, GEORGE J. (Dr.): W180 N8191 Destiny Drive, Menomonee Falls, WI 53051.
IVY, BILL: P.O. Box 127, Don Mills, Ontario M3C 2R6, CANADA.
JIMENEZ GOMEZ, JOSE LUIS: Moncayo, 3-3~ A, Granada 18009, SPAIN.
KLIK, IVO: Department of Physics, Tufts University, Medford, MA 02145.
LEAHY, CHRISTOPHER: Director, Conservation Dept., Massachusetts Audubon Society, Lincoln, MA 01773.
LEES, DAVID: 23 Normanton Road, South Croydon, Surrey CR2 7AE, ENGLAND.
LOFTIN, JULIA M.: 2413 Sterling Road, Nashville, TN 37215.
LOOMIS, WILLIAM C.: 1437 East 25th Avenue, North Kansas City, MO 64116.
LOUD, ROBERT: 3355 West 30th Street, Cleveland, OH 44109.
MASTERS, KAREN L.: Dept. of Zoology, University of Florida, Gainesville, FL 32611-0001.
MELIUS, BENN: 636 Union Street, Hartford, WI 53027.
MURANAKA, HIDEO: 179 Oak Street, #W, San Francisco, CA 94102-5923.
PERRA, GUIDO: Via Maggio n.17, Firenze 50125, ITALY.
PETR, DANIEL: Biology Department, Southwestern Adventist College, Keene, TX 76059.
QUISENBERRY, SYDNEY: Rural Route 01, Box 423, Marietta, OK 73448.
RASCHKE, GALEN: 2929 Jefferson Street, Paducah, KY 42001.
RICE, VIRGINIA RUTH: 4354 West Villa Theresa Drive, Glendale, AZ 85308-1628.
RIEPE, DON: Gateway National Recreation Area, National Park Service, Headquarters Bldg. 69, Floyd Bennett Field, Brooklyn, NY 11234.
RING, LES: 25 Reef Street, Saunders Beach, Townsville, Queensland 4818, AUSTRALIA.
RODGERS, TOM: 1629 Bluegrass Court, S.E., Grand Rapids, MI 49546.

ROSS, DOUGLAS W.: 4990 Hammock Lake Drive, Miami, FL 33156-2220.
 ROSS, GARY NOEL (Dr.): 6095 Stratford Avenue, Baton Rouge, LA 70808.
 SEABOLT, TOM: #303, 302 8th Ave. South, St. Cloud, MN 56301.
 SETZ, ELEONORE Z.F.: Depto. de Zoologia, Universidade Estadual de Campinas, C.P. 6109, Campinas, São Paulo 13.081, BRASIL.
 SIEW, THANAT: 92, Leboh Raya Perajurit 2, Ipoh Garden East, Ipoh 31400, MALAYSIA.
 SKEEL, DAVID: 2051 Cherry Street, #1, Philadelphia, PA 19103.
 TAYLOR, PETER: Box 597, Pinawa, Manitoba R0E 1L0, CANADA.
 TERAGUCHI, SONJA (Ph.D.): Cleveland Museum of Natural History, Wade Oval, University Circle, Cleveland, OH 44106.
 UNDERWOOD, DESSIE: Dept. of Zoology, University of California, Davis, CA 95616.
 WARNER, JOHN B.: 1624 Gaillard Place, Richland, WA 99352.
 WATSON, J. KEITH: 2511 Shaler Lane, Knoxville, TN 37920.
 WEST, RICHARD: 36943 North Route 59, #1, Ingleside, IL 60041.
 WILSON, J. DOUGLAS: 343 Argyle Street South, Cambridge, Ontario N3H 1R2, CANADA.
 WILSON, ADAM DAVID: 343 Argyle Street South, Cambridge, Ontario N3H 1R2, CANADA.
 ZEBOLD, ROGER A.: 675 B Sprague Road, Wilmington, OH 45177.

KOHNEN, PAUL D.: 674 NW 18th Street, Corvallis, OR 97330.
 LOY, PETER W.: 337 Sahoma Terrace, Edmond, OK 73013.
 MATSUMOTO, KAZUMA (Ph.D.): Tama Forest Science Garden, FFPRI, Todoricho 1833, Hachioji City, Tokyo 193, JAPAN.
 McELFRESH, JAMES: 3131 Waldorf Drive, Riverside, CA 92507.
 MILLER, ANDREW S.: 959 Centre Court Drive, Tracy, CA 95376-4910.
 MYERS, MARK: S790 Twp Rd. 2, Liberty Center, OH 43532.
 ORR, A. G.: 26 Currumundi Road, Caloundra, Queensland 4551, AUSTRALIA.
 OOSTING, DANIEL P.: 1002 Iowa Street, Alma MI 48801.
 PASSOA, STEVEN: USDA, APHIS, Building 3, Room 109, 8995 East Main Street, Reynoldsburg, OH 43068.
 PAVULAAN, HARRY: P.O. Box 2494, Rockville, MD 20847-2494.
 PEIGLER, RICHARD S. (Dr.): Department of Zoology, Denver Museum of Natural History, 2001 Colorado Boulevard, Denver, CO 80205.
 PLAUK, JEAN JURGEN: P.O. Box 1325, D-2805 Stuhr 1, WEST GERMANY.
 PRATT, GORDON F. (Dr.): Dept. of Entomology & Applied Ecology, University of Delaware, Newark, DE 19716.
 RAGUSO, ROBERT A.: Dept. of Biology, University of Michigan, Ann Arbor, MI 48109-1048.
 RICHERS, KELLY M.: 9417 Carvalho Court, Bakersfield, CA 93311.
 RICHINS, ZEN O.: 1130 East Grovers Avenue, #246, Phoenix, AZ 85022.
 ROSS, DANA N.: 1415 Briarcliff Lane, Eugene, OR 97404.
 ROSS, DOUGLAS W.: P.O. Box 351, Banner Elk, NC 28604-0351.
 SHAW, DAVID P.: 5701 Riverwood Court, Indianapolis, IN 46250.
 SIMONS, MICHAEL JOHN: 2 Melbourne Villas, Luxford Lane, Crowborough, East Sussex TN6 2PQ, ENGLAND.
 UNDERCOFFER, JERRY: P.O. Box 737, St. Marys, PA 15857-0737.
 VENABLES, B. ADRIENNE B.: Dept. of Entomology, University of Maryland, College Park, MD 20706.
 WARD, CHRIS: 1139 South Rangeline Road, Carmel, IN 46032.
 WATSON, J. KEITH: Rural Route 04, Box 339, Luray, VA 22835.
 WEBBER, HILTRUD M.: Rural Route 03, Box 334-E, McCubbins Drive & Whispering Oaks, Cabool, MO 65689.
 WELLER, SUSAN J.: Department of Entomology, NHB-127, National Museum of Natural History, Smithsonian Institution, Washington, DC 20560.
 YOUNG, CHRIS A.: 24715 West 5 Mile Road, #G7, Redford Township, MI 48239.

Address Changes



ADAMS, CHRISTIAN: c/o Steven Adams, Rural Roue 01, Box 279-2, Mabank, TX 75147.
 AJILVSGI, GEYATA: P.O. Box 2182, Bartlesville, OK 74006-2182.
 ALLYSON-MORELLO, Y. SUZANNE: 413 Wilbrod Street, Ottawa, Ontario K1N 6M7, CANADA.
 ARTHUR, WILLIAM E.: P.O. Box 8394, Gadsden, AL 35902-8394.
 BEURIE, JOHN: 3240 North Highway 89, Prescott, AZ 86301-8447.
 BRAY, TANYA: 1107 Ironwood Court, #186, Bellevue, NE 68005-4758.
 BROU, VERNON A., Jr.: 74320 Jack Loyd Road, Abita Springs, LA 70420.
 BRUYEA, GUY P.: 11904 Paseo Lucido, #142, San Diego, CA 92128-3206.
 BRYSON, CHARLES T.: USDA, ARS, Southern Weed Science Lab., P.O. Box 350, Stoneville, MS 38776-0350.
 CUTHRELL, DAVID: Rural Route 01, Box 714, Early, IA 50535.
 DeLISLE, GILLES: 567 St.-Joseph, C.P. 566, St. Raymond, Quebec G0A 4G0, CANADA.
 DeWIND, JOAN M.: Rural Route 02, Briggs Hill Road, Sherman, CT 06784.
 ELLSBURY, MICHAEL M. (Dr.): Forage Research Unit, USDA-ARS, P.O. Box 5367, Mississippi State, MS 39762-5367.
 ETHERIDGE, MARK: 5817 B Rexford, Springfield, VA 22152.
 FASON, JACK (FBPA): 3131 East Alameda Avenue, Polo Club, No. 1705, Denver, CO 80209.
 FRIEDLANDER, TIMOTHY P. (Dr.): 20100 Hob Hill Way, Gaithersburg, MD 20879.
 HARRIS, LOWELL N.: 3655 Lutheran Parkway, #207, Wheat Ridge, CO 80033.
 JOHNSON, ELIZABETH: 260 South Beverwyck Road, Parsippany, NJ 07054.
 KING, RON: 3315 East Longview, #33, Bloomington, IN 47408.
 KITCHING, IAN JAMES (Dr.): Science Departments: Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD, ENGLAND [same location, new names for department and institution].

The Market Place

Buy • Sell • Exchange • Wants



Items submitted for inclusion in this section are dealt with in the manner set forth on page 10 of the Jan/Feb 1990 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. This will include all Ornithopterans now and for the foreseeable future. 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 in an ad stands for self addressed stamped envelope.

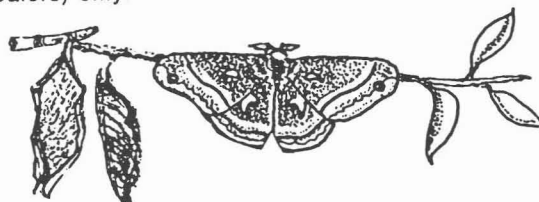
The Society, as always, expects all notices to be offered in good faith and takes no responsibility for the integrity of any advertiser. Any disputes arising from such notices must be resolved by the parties involved outside of the structure of the Society.

FOR SALE: Two 36-drawer Cornell cabinets with 15 Cornell drawers in each. Send SASE for prices. Russell Rahn, 3205 W. Rochelle Road, Irving, TX 75062.

- WANTED: Useable copy of Jean-Paul Laplante's book, Papillons et Chenilles du Quebec et de L'est du Canada [Lepidoptera and Larvae of Quebec and of East Canada], 1985, 280 pp. (See review in JOURNAL, Vol 43, No 3, 1989.) State price and condition. Vincent P. Lucas, 800 Brick Mill Run, #301, Westlake, Ohio 44145 USA.
- FOR SALE: Two copies of Holland's Butterfly Book, both are second editions, 1905 and 1929. Both in excellent condition. Send SASE for prices. ALSO FOR SALE: Light traps for use with 12 volt batteries or 120 volt AC, or both. Portable and light weight with 8, 15 or 22 watt bulbs. Beetle screen and rain drain. Excellent design and construction. For more information and prices, contact Leroy C. Koehn, 2946 N.W. 91st Ave., Coral Springs, FL 33065. Telephone (305) 344-3873.
- WANTED: PUPAE/COCOONS of A. luna, E. magnifica, E. imperialis, H. columbia, H. cecropia, C. promethea, S. cynthia, P. modesta, P. glaucus, P. troilus, and others. Will buy or exchange for European species. Correspondence invited. Drs. W. de Rover, Kamphedelaan 19, B-2300 TURNHOUT, Belgium.
- CONTACTS WANTED: Having started a long time desire to collect a library of scarce and rare books on Lepidoptera, I am seeking others with the same interest. Would like to correspond with other collectors of books to share information on editions, number of plates per volume, dates of publication, etc. My area of interest covers all periods; both old and modern volumes. Please write! Also want single books or libraries to purchase. Donald E. Baker, 0-2640 Beeline Rd., Holland, Michigan 49424, USA. Phone (616) 399-7130.
- FOR SALE OR EXCHANGE: Ova of H. cecropia, A. luna, S. cynthia, P. asterius and a few others. Please send a SASE for reply to Mark A. Howe, R.R. 1, Box 217, Lake Village, IN 46349.
- FOR SALE: Papered specimens of bred Thailand Spingidae and Papilios from the Philippines. Ask for \$1.00 list. Reasonable prices. J. P. Kazenbroot, Beethovengarde 77, 5344 CD Oss, NETHERLANDS.
- HAVE Hyalophora euryalus cocoons from Central Sierra Nevada. Will trade 1 for 1 with any other U.S. Saturnid (including Hemileuca and Automeris), or will sell. Ralph Wells, 303-B Hoffman St., Jackson, CA 95642. Phone (209) 223-1170.
- FOR SALE: Two forms of butterfly bait traps. For information sheet, contact Will Ward, 1474 Melbourne Dr. SE, Girard, Ohio 44420-1332, USA.
- FOR SALE: 1990 Saturnid ova of imperial, cecropia, luna, cynthia, pernyi, polyphemus and others. Send SASE to Jeff Frey, 364 Oaklyn Rd., Lebanon, PA 17042, USA.
- FOR SALE OR TRADE: A limited number of Hemileuca lucina ova, collected in the wild. Contact Mark Szyzkiewicz, 3 Crescent St., Warren, MA 01083, USA. Phone (413) 436-7845.
- BOOK WANTED: I am looking for one copy of "Butterflies and Moths of Newfoundland and Labrador" by R. F. Morris, 1980 (good to excellent condition). If you have a copy that you are willing to sell, please contact Tom Seabolt, #303, 302 8th Ave. South, St. Cloud, Minnesota 56301, USA.
- FOR SALE: Ova of H. cecropia, A. polyphemus, A. luna, A. lo, H. columbia and C. promethea. Also, literature on how to rear them. Papered specimens available in each of these species, except A. lo. Limited supply of cocoons of above species available to be shipped on a first received first shipped basis. Send SASE for price list to Dr. Gardiner E. Gregory, Star Route 79, Box 259, Orland, Maine, 04472.
- FOR SALE: Overwintering pupae of C. regalis and E. imperialis. Cocoons of A. luna and S. cynthia. Send SASE to Catherine Hartman, 25903 CR 24 W, Elkhart, Indiana 46517, USA.
- FOR SALE OR EXCHANGE: Ova or pupae of Papilio machaon, Allancastris cerisyi, Euphydryas aurinia, Sphinx linguistri, Deilephila elpenor, Samia cynthia walkeri, Agria tau, Endromis versicolora, Brahmaea wallichi, Brahmaea japonica, Trabalia vishnu. Also butterflies from Europe, Africa, Malaysia, Philippines, Indonesia. WANTED: Other livestock and butterflies from North America. Robert Keiser, Adhemar Borinstraat 36, Zwijndrecht B-2730, BELGIUM.
- FOR SALE/EXCHANGE: Live overwintering cocoons and pupae or ova of these species in April/May - Saturnia pyri & pavonia, E. versicolora, D. elpenor. WANTED: Live cocoons/ova of C. hercules, Attacus atlas lorquinii, caesar, imperator, A. edwardsii, A. mylita, Hyalophora sp. Bozík Rinn, Studnice U Nachoda 25, 549 48, CZECHOSLOVAKIA.
- FOR SALE: Ova of H. gloveri, Platyrepia virginialis (Ranchman's tiger), both from Tensleep, Wyoming wildstock. Send SASE please to Russell Halvorsen, 1707 W. Coffman, Casper, Wyoming, 82604, USA.

MEMBERS' COMMERCIAL NOTICES

- FLORA & FAUNA BOOKS, P.O. Box 15718, Gainesville, FL 32604 - All books in print at 5% discount. Did you miss our Holiday sale at 15% discount? Let us put you on our mailing list. New items: Moths of Taiwan, pt. 1 (Chang, 1989. Chinese with Latin names/color illus.), \$27.50. Lepidopterorum Catalogus 118: Noctuidae (Poole, 1989, 1314 pp, 3 v), \$250.00. Butterflies of the World (Preston, 1988, 192 p, color), \$22.95. Above prices minus 5%, plus shipping (\$1 plus 50¢ per book; plus \$1 per book more outside the US) (Fla. residents add 6% sales tax).
- IANNI BUTTERFLY ENTERPRISES, P.O. Box 81171, Cleveland, Ohio 44181, USA. Phone: (216) 888-2310. Worldwide butterflies, moths and beetles in all price ranges. Superior quality, double boxed for shipping safety. Personalized service to all - including new collectors! We specialize in Papilio, Morpho and Heliconius. ALSO, excellent quality insect pins including std. black, stainless steel, Elephant at the BEST prices. Send \$5.00 for one year price list subscription.
- I. R. WILLEM, P.O. Box 1625, Margate 4275, SOUTH AFRICA. FOR SALE: Largest selection of South African beetles, including Hypselogenia geotropina, Eudicella euthalia natalensis, Amaurodes passerini rufotibialis, Anthia sp, Mantichora sp. Also the multicolored rainbow grasshopper Maphyetus leprosus plus an assortment of butterflies. Charaxes druceanus cinadon, ethalion and other rare material on special request.
- K u. K Gbr, Ellenbeek 35, D-5603 Wülfrath, West Germany. FOR SALE: First class insect pins with nylon heads. Black or white. Send for prices of packets of 100.
- E. W. CLASSEY LTD. (Natural History Publishers/Booksellers), P.O. Box 93, Faringdon, Oxon SN7 7DR, England. Telephone: International Code plus 44 367 82 399. FAX: International Code plus 44 367 82 429. Send NOW for our superb 'free' new book catalogue containing up to date information on all newly published or recently announced titles. The Butterflies of Egypt by T. Larsen \$35.00. The Butterflies of Laos by N. Negishi \$68.00. The Moths of Borneo by Holloway \$40.00. The Butterflies & Moths of Great Britain & Ireland 7:1 by Heath \$88.00. The Butterflies of Tanzania by Kielland approx. \$86.00. We also hold stocks of the magnificent series Butterflies of the World by Bernard D'Abbrera. We are specialists in antiquarian/out of print books and our latest catalogue has 10 pages of purely Lepidoptera. We will keep your requests for out of print books on file for two years.
- CHRISTOPHER J. FARRELL. Apartado #360, Buga, Valle, Colombia, S. America. Colombian Lepidoptera and Coleoptera for sale including, subject to availability, many rarer species, e.g.: Heliconius godmani, gyanessa ernestus, longarena, Prepona wernerii, Anaea laura panariste, titan ssp. nov., Papilio cacicus, ascolius, Parides childrenae, Eurytides orabilis, etc., also many other rarer species, assorted lots, Morphos, Caligos, Papilios, Nymphalids etc. Send \$1.00 for list. Wholesale (dealers) only.



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John A. Snyder
Department of Biology
Furman University
Greenville, SC 29613-0001

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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, Kansas 66044-2373, USA. Phone (913) 843-6212. RIPPLES EDITOR is Jo Brewer, 257 Common St, Dedham, Massachusetts 02026-4020, USA.
=====

INFORMATION ABOUT THE SOCIETY.....

Membership in the Lepidopterists' Society is open to all persons interested in any aspect of Lepidopterology. Prospective members should send the TREASURER, Fay H. Karpuleon, 1521 Blanchard, Mishawaka, Indiana 46544, USA, phone (219) 258-4893, the full dues for the current year, \$25.00 US, together with mailing address and a note about areas of interest in the Lepidoptera; student membership (must be certified) \$15; sustaining membership \$35; life membership \$500. Remittances must be in US dollars, payable to the Lepidopterists' Society. All members will receive the JOURNAL (published quarterly) and the NEWS (published bimonthly). A biennial membership directory will comprise the last issue of the NEWS in even-numbered years.

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

Information on Membership and other aspects of the Society must be obtained from the SECRETARY, Dr. William D. Winter, Jr., 257 Common Street, Dedham, Massachusetts 02026-4020, USA. Home phone (617) 326-6053.

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Manuscripts submitted for publication in the JOURNAL are to be sent to Dr. Boyce Drummond, EDITOR, JOURNAL of the Lepidopterists' Society, Natural Perspectives, P.O. Box 9061, Woodland Park, Colorado 80866-9061, USA. Phone (719) 687-6596. See the inside back cover of a recent issue of the JOURNAL for editorial policies.
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SUPPLEMENT TO THE CATALOGUE/CHECKLIST OF THE BUTTERFLIES OF AMERICA NORTH OF MEXICO (Memoir #3), Clifford D. Ferris, editor. General notes, plus corrections and additions to the original Memoir #2. Members and subscribers: \$6.00 postpaid; \$7.50 first class in USA or \$9.00 airmail abroad. Non-members: \$10.00 postpaid; \$11.50 first class in USA or air post to Canada.

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