

NEWS

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ZONE 1 THE FAR NORTH: ALASKA, YUKON and NORTHWEST TERRITORIES. Coordinator: Kenelm W. Philip. Contributors: C. D. Ferris, J. D. Lafontaine, E. M. Peters, J. & L. Troubridge, and collectors for the Alaska Lepidoptera Survey. Previously unreported localities or species are emphasized; collecting was by ALS volunteers unless noted. Note regarding Alaska Lepidoptera Survey: K. Philip (along with J. and L. Troubridge) spent 17 June through 7 July on the Dempster Highway, Yukon Territory. Collecting was concentrated at four sites: Windy Pass (& vicinity), Eagle Plains (just north of the Ogilvie River), and the west flank of the Richardson Mts. at km 408 and km 466 (the latter just west of the YT/NWT border). The weather was poor during most of this period, and at Windy Pass a late and harsh spring had held most of the early summer species down to very low abundance levels. The late summer species came out at normal abundances in the valleys, but the higher elevations in the Windy Pass area were nearly barren of the usual hilltop species from early June on into mid-July. In Alaska as well the late spring severely affected butterfly populations, and only 550 specimens were brought in by 11 ALS collectors. It should be noted that the Dempster Highway received an unprecedented amount of collecting this year, with at least 9 lepidopterists that I know of working the highway in June and July. Note on nomenclature: *Lycaeides idas* is the current name for *L. argyrognomon*, and *Agriades rustica* for *A. franklinii*, so for these two species the Miller-Brown catalogue designations are not followed.

YUKON TERRITORY. Weather: an exceedingly odd weather pattern played havoc with the early summer butterfly populations in the Ogilvie Mts. Spring was very late indeed (and cold and cloudy weather persisted throughout June), but there was one warm spell in May immediately followed by severe cold, which appears to have caught the early summer species in a particularly vulnerable stage of their development. At Windy Pass *Oeneis melissa* (which is usually abundant) was almost rare, and *O. bore* and *E. rossii* were at low levels compared to previous years. *Oeneis excubitor* was not seen at Windy Pass despite the efforts of nine collectors throughout June and the first half of July. *Clossiana polaris* was the only early species that seemed unaffected (in numbers) by the weather, but a very long flight period with fresh males turning up well into July indicated that even this hardy species was responding to the unusual conditions. The late summer species that fly at lower elevations appeared in normal numbers (but the higher elevations remained essentially barren throughout the season). Life history: Evidence is accumulating that suggests *Oeneis excubitor* breeds in boggy areas in the taiga, rather than on hilltops. There have now been at least three cases (Ferris, 1985; Peter Ross and K. Philip, 1984) along the Dempster Highway where individuals have been captured near the base of a hill or on valley floors, far away from hilltops, and a number of individuals have been seen in spruce bog habitats. New collecting site: km 466 Dempster Highway (public campsite on low hill just before the YT/NWT border crossing). The small hill by the campsite is covered with gravel scree, and supports good populations of *Clossiana distincta*, *Erebia mackinleyensis*, and *E. occulta*. Collecting is comparatively easy, provided the strong winds often found there are not blowing.

RANGE EXTENSIONS: BUTTERFLIES- *Euchloe hyantis* from km 36, Nahanni Range Road (first Y.T. record); *Clossiana bellona* from near Tuchtitua River, Campbell Highway (the only previous Y.T. record was from Watson lake). **MOTHS** (1984 records)- *Xestia alaskae* (Noctuidae) from Fish Creek, SW of Komakuk Beach (first Canadian record); *Xestia woodi* (Noctuidae) and *Gnophos macguffini* (Geometridae) from British Mts. near Firth River (first Y.T. records).

BUTTERFLIES: BRITISH MTS- Lafontaine reports from his 1984 expedition with D. M. Wood. Collections were carried out at two sites; a creek 10 km E of Sheep Ck., just N of the Firth River, 69°17'N, 140°03'W (s); and Fish Ck., 20 km SW of Komakuk Beach, 69°27'N, 140°23'W (f). This report did not arrive in time for the 1984 Annual Summary. Species recorded were *Pyrgus centaureae*(s), *Parnassius evermanni*(s), *Papilio machaon*(s,f), *Pterourus glaucus*(s), *Pontia occidentalis*(s,f), *Artogeia napi*(s,f), *Euchloe creusa*(s,f), *Colias philodice*(s), *C. hecla*(s,f), *C. h. canadensis*?(s), *C. gigantea*(s,f), *C. palaeno*(s,f), *Everes amyntula*(s), *Celastrina ladon*(s), *Glaucopsyche lygdamus*(s), *Lycaeides idas*(s), *Vacciniina optilete*(s,f), *Agriades rustica*(s,f), *Boloria napaea*(f), *Procllossiana eunomia* [unsilvered](s,f), *Clossiana frigga*(f), *C. improba*(s,f), *C. polaris*(s,f), *C. freija*(s,f), *C. distincta*(s,f), *C. chariclea*(s,f), *Coenonympha*



1985 Season Summary



tullia(s,f), Erebia rossii(s,f), E. disa(s), E. mackinleyensis(s,f), E. fasciata(s,f), E. theano(f), E. youngi(s,f), E. lafontainei(s,f), E. occulta(s,f), O. uhleri(s,f), O. bore(s,f), O. melissa(s,f), Oeneis excubitor(f), O. polixenes(s).
 DEMPSTER HIGHWAY- Km 466 (Richardson Mts.), 28 June-3 July, Philip and Troubridges report Papilio machaon, Artogeia napi, Colias nastes, C. palaeno, Agriades rustica, Clossiana improba, C. polaris, C. distincta (common), C. chariclea, Erebia rossii, E. disa, E. mackinleyensis, E. fasciata, E. youngi, E. occulta, Oeneis bore, O. excubitor; Km 412 (Richardson Mts.), 1 July; Peters reports Hesperia comma, Papilio machaon, Pontia occidentalis, Artogeia napi, Colias hecla, C. h. canadensis, C. nastes, C. palaeno, Vacciniina optilete, Agriades rustica, Proclassiana eunomia, Clossiana frigga, C. improba, C. polaris, C. freija, C. distincta, C. chariclea, Coenonympha kodiak, Erebia rossii, E. fasciata, E. discoidalis, E. youngi, Oeneis uhleri, O. bore, O. melissa, O. excubitor; Km 408 (Richardson Mts.), 4 July, Philip and Troubridges report Papilio machaon, Pontia occidentalis, Colias hecla, C. nastes, C. gigantea, C. palaeno, Vacciniina optilete, Agriades rustica, Proclassiana eunomia, Clossiana frigga, C. improba, C. polaris, C. distincta (common), C. chariclea, Coenonympha kodiak, Erebia mackinleyensis, E. youngi, Oeneis uhleri, O. bore, O. jutta, O. melissa, O. excubitor; Ferris reports the following additional species from approximately the same area, 15 & 20 June, Pyrgus centaureae, Artogeia napi, Celastrina ladon, Glaucopsyche lygdamus, Clossiana freija, Erebia discoidalis, E. occulta; Near Eagle River crossing, 10-20 June, Ferris reports Erynnis persius, Pyrgus centaureae, Carterocephalus palaemon, Hesperia comma, Pterourus glaucus, Colias hecla, Incisalia augustus, Everes amyntula, Celastrina ladon, Glaucopsyche lygdamus, Clossiana frigga, C. polaris, C. freija, Polygonia faunus, P. gracilis, Erebia disa, E. discoidalis, Oeneis bore, O. jutta, O. excubitor, O. polixenes; Km 270 (hilltop on south edge of Eagle Plains), 27 June, Philip and Troubridges report Carterocephalus palaemon, Papilio machaon, Pontia occidentalis, Agriades rustica, Clossiana polaris, C. freija, C. distincta, Erebia fasciata, Oeneis melissa, O. excubitor; Km 207.5 (Ogilvie River valley), 20 June, Ferris reports Erynnis persius, Pyrgus centaureae, Carterocephalus palaemon, Hesperia comma, Papilio machaon, Artogeia napi, Colias philodice, C. hecla, Everes amyntula, Glaucopsyche lygdamus, Polygonia faunus, Erebia disa, E. discoidalis, Oeneis jutta; Km 161-164 (Engineer Creek), 10, 22, 26 June, Ferris reports Pyrgus centaureae, Artogeia napi, Colias hecla, C. gigantea, Euchloe creusa, Glaucopsyche lygdamus, Clossiana frigga, C. polaris, C. freija, Erebia rossii, E. disa, E. fasciata, E. discoidalis, Oeneis bore, O. jutta; Windy Pass (km 155), 9, 17-26 June, 5-7 July, Ferris, Philip, and Troubridges report additional species (see 84 A.S.), Pyrgus centaureae, Carterocephalus palaemon, Hesperia comma, Colias hecla canadensis, C. pelidne, Euchloe sp. (possibly ausonides, but nearer hyantis), Everes amyntula, Celastrina ladon, Phyciodes pratensis, Erebia discoidalis, Oeneis jutta; Combining the 1984 and 1985 collecting, we now have 46 species from Windy Pass (of which 43 were obtained in 1985 despite the poor weather); Km 137 (Blackstone River valley), 26 June, Philip and Troubridges report Parnassius evermanni, Artogeia napi, Colias hecla canadensis, Euchloe creusa, Glaucopsyche lygdamus, Clossiana frigga, C. polaris, C. freija, C. distincta, Erebia discoidalis, Oeneis bore; Hilltop 5 km East of Chapman Lake, 6 July, Lafontaine reports Oeneis excubitor (it is interesting that O. excubitor was found both north and south of Windy Pass, but was apparently completely absent at the pass; Nor was this because of an even-year flight pattern, since this species was abundant at Windy Pass in both 1983 and 1984.)
 KLONDIKE HIGHWAY 2 (Skagway to Alaska Highway, SE of Whitehorse)- Carcross Desert Area, 29 June, Ferris reports Erynnis persius, Polites draco, Colias philodice, Euchloe ausonides, Everes amyntula, Plebejus saepiolus, Agriades rustica, Occidryas anicia, Oeneis chryxus; Montana Mountain (south of Carcross), 18 July, Lafontaine reports Hesperia comma, Parnassius evermanni, Papilio machaon, Pontia occidentalis, Colias nastes, Vacciniina optilete, Agriades rustica, Clossiana improba, C. polaris, C. freija, Speyeria atlantis, Erebia mackinleyensis, E. lafontainei, Oeneis bore, O. melissa, O. polixenes.
 YUKON HIGHWAY 11 (Stewart Crossing-Keno Road)- Km 31.5, 27-28 June, Ferris reports Erynnis persius, Pterourus glaucus, Euchloe ausonides, Everes amyntula, Glaucopsyche lygdamus, Colias philodice, C. hecla, Clossiana freija, Occidryas anicia, Polygonia faunus, Oeneis chryxus caryi, O. jutta; Hansen Lake Road junction vicinity, 28 June, Ferris reports Pyrgus centaureae, Carterocephalus palaemon, Pterourus glaucus, Artogeia napi, Colias hecla, Glaucopsyche lygdamus, Clossiana frigga, C. polaris, C. freija, Polygonia faunus, Erebia disa, E. discoidalis, Oeneis bore, O. jutta, O. polixenes.
 YUKON HIGHWAY 10 (Nahanni Range Road), km 36 vicinity, 1 July, Ferris reports Euchloe hyantis(!), Glaucopsyche lygdamus, Clossiana freija, Coenonympha tullia, Oeneis bore.
 YUKON HIGHWAY 4 (Campbell Highway), km 77.5 (just N of Tuchitua River), 1 July, Ferris reports Pterourus glaucus, Glaucopsyche lygdamus, Lycaeides idas, Clossiana bellona(!), Oeneis bore.
 YUKON HIGHWAY 2 (Klondike Loop), 13 mi N of junction with Alaska Highway, S end of Lake Laberge, 10 June, Troubridges report Polites draco, Pterourus glaucus, Euchloe ausonides, Glaucopsyche lygdamus, Occidryas anicia, Oeneis chryxus.

MOTHS: Lafontaine reports from the Lafontaine/Wood 1984 expedition to the British Mts. (see above under 'Butterflies' for localities 's' and 'f').
 NOCTUIDAE- Xestia alaskae(f) [first Canadian record], X. liquidaria [formerly Barrovia fasciata](f), X. lyngei(s,f), X. woodi(s) [first YT record], Trichosilia [2 new sp.](s,f), Parabarrovia keelei(s).
 GEOMETRIDAE- Gnophos macguffini(s) [first YT record].
 ARCTIIDAE- Acsala anomala(s,f) [common at both sites], Dodia albertae(s), D. sp. nov(s).

ALASKA. Weather: A very late cold spring was followed by a cool wet summer. The only protracted spell of good weather in Interior Alaska was the last two weeks of July and the first week of August. Butterfly populations showed noticeable effects from this weather pattern.

BUTTERFLIES: SEWARD PENINSULA- Humboldt Creek, 12 mi ENE of Serpentine Hot Springs, 14-19 July, Papilio machaon, Artogeia napi, Colias hecla, C. thula?, C. palaeno, Lycaeides idas, Vacciniina optilete, Clossiana frigga, C. freija, C. chariclea, Coenonympha kodiak, Erebia disa, E. youngi, Oeneis bore.
 INTERIOR- Flat and vicinity including Chicken Mt. (7 to 12 mi SSW of Iditarod, Kuskokwim Mts.), 5-18 July, Hesperia comma, Artogeia napi, Colias palaeno, Vacciniina optilete, Clossiana freija, C. chariclea, Erebia rossii, E. disa, Oeneis bore?, O. jutta. In the Fairbanks area, the late spring was (apparently) responsible for the following anomalies--Alder Creek failed to produce Lycaena phlaeas arethusa (12-23 July) despite the presence (at these late dates) of the other species which normally fly with it; Murphy Dome failed to produce the Colias (near hecla or boothii?) that flies just above treeline in early summer, while on 16 July there were reasonably fresh specimens of Clossiana polaris!; Eagle Summit had fresh Parnassius evermanni on 19 July.
 SOUTH-CENTRAL ALASKA- West end of Sheep Mt., mile 112 Glenn Highway, additional species (see 1974 and 1976 A.S.) were Pontia occidentalis, Colias hecla, Everes amyntula, Clossiana polaris, Aglais milberti.

MOTHS: Moser Bay, S end Kodiak Island, August, Arctia caja.

ZONE 2 Pacific Northwest: Idaho, Oregon, Washington, British Columbia. Coordinator: J.H. Shepard (JHS).
 Contributors: D.L. Eiler (DLE), Katrina Ervest (KE via RP), C.D. Ferris (CDF), Thea, Tom & Dory Hellyer (T.T.&D.H via RP), Helen Knight (HK via JHS), Fayette F. Krause (FK via RP), Noel LaDue (NL), Kathleen Osterman (KO via RP), Floyd & June Preston (FJP), R.M. Pyle (RP), John Reichel (JR), Maurita Smyth (MS via RP), D.L. Threatful (DT), Wayne Wehling (WW).
 General Collecting Conditions- All contributors who commented on the collecting conditions noted the extremely early season for June, July, and August species, all of which occurred two to three weeks ahead of normal. Spring

collecting was normal.

MIGRATORY SPECIES: *D. plexippus* was noted commonly further north than usual with a record for B.C. at Kamloops (NORTHERN Record) where it was reared (HK). *E. claudia*, Nelson, B.C., July 5 (JHS). No *Vanessa* reported north of southern Washington and the records sent in did not appear to be of migratory populations.

IDAHO. Eiler collected extensively in Ada, Boise and Butte Counties with the unusual records noted below. Ferris and the Preston's also collected, noting the dry, advanced season. Reichel collected many County records for Lewis Co., 10 km. W of Kamiah, 13-19 May. All Lewis Co. records referred to below are of this locale.

BUTTERFLIES: *E. icelus*, Hwy. 12, from Post Office Creek to Canyon Cr., IDAHO Co., 31 May (CDF); *H. uncas lasus*, 26.5 mi. E of Junction with SR 22/33 on US 20, BUTTE Co., 29 June (DLE); *P. peckius*, Meadow Cr., near Moyie Springs, BOUNDARY Co., 6/7 July (CDF); *A. vialis*, Canyon Creek, 7.2 mi. S of Banner Summit, Boise Co., 28 June (DLE); *P. clodius*, LEWIS Co. (JR); *P. zelicaon*, LEWIS Co. (JR); *P. indra*, LEWIS Co. (JR); *P. multicaudata*, LEWIS Co. (JR); *P. beckeri*, LEWIS Co. (JR); *P. napi*, LEWIS Co. (JR); *A. sara*, LEWIS Co. (JR); *C. eurytheme*, Meadow Cr., nr. Moyie Springs, BOUNDARY Co., 6/7 July (CDF); *L. cupreus snowi*, hillside above Mores Creek, about 1 mile SW of Mores Creek Summit, el 5800', Boise Co., 27 June (DLE); *E. helloides*, Meadow Cr., nr. Moyie Springs, BOUNDARY Co., 6/7 July (CDF); *L. melissa*, Meadow Cr., near Moyie Springs, BOUNDARY Co., 6/7 July (CDF); *C. affinis*, LEWIS Co. (JR); *C. sheridanii*, Hwy. 12, from Post Office Creek to Canyon Cr., IDAHO Co., 31 May (CDF); *C. palla calydon*, S Fork Payette R., just above Warm Springs Creek confluence and at SR-21 overlooking Canyon Cr., 8.7 mi. S of Banner Summit, Boise Co., 28 June (DLE); *E. gilletti*, LEWIS Co. (JR), S Fork Payette R., just above Warm Springs Cr. confluence, BOISE Co., 28 June (DLE), SR-21 overlooking Canyon Cr., 8.7 mi. S of Banner Summit, Boise Co., 28 June (DLE), Canyon Creek, SR-21, 7.2 mi. S of Banner Summit (common). *D. plexippus*, from Ada, Butte, and Bonneville Counties.

OREGON. D. Eiler collected extensively in scattered localities but with no County records. N. LaDue also reported one weekends' collecting. There is a rumor that *O. yuma* was taken, a STATE Record, but no one sent in details!

WASHINGTON. W. Wehling reports a large influx of *D. plexippus* with many larvae maturing to emerge as adults in August. Weather conditions were excellent early on, but a month early for most species. In July and August generally dry conditions severely limited collecting, especially east of the Cascades. West of the Cascades, Pyle reports that many species appeared in large numbers and late into October.

BUTTERFLIES: *H. juba*, SR-20, mi. 413, S of Ione, PEND OREILLE Co., 3 June (CDF); *P. mardon*, Mima Prairie by Black R., T16N R3W S21, Thurston Co., 18 May (RP); *P. sabuleti*, Soap Lake, GRANT Co., 1 September (KO); *P. oregonius*, 6 km. downstream from Lower Granite Dam, GARFIELD Co., 20 July (WW); *P. indra indra*, Rattlesnake Grade above Grande Ronde R., el 500-550 m, ASOTIN Co., 14 April (WW); *P. napi*, Swede Park, Gray's River, T10N R7W S17, Wahkiakum Co., 16 Oct, LATE (RP); *E. hyantis*, Snake R. bluffs, 100 m above river, 18 mi. S of Asotin, ASOTIN Co., 13 April (WW); *C. eurytheme*, US 101, 1 mi. E of Ilwaco, PACIFIC Co., 22 August (RP); *C. dumetorum*, Rattlesnake Grade above Grande Ronde R., el 500-550 m, ASOTIN Co., 14 April (WW); *C. sheridanii*, Rattlesnake Grade above Grande Ronde R., el 500-550 m, ASOTIN Co., 14 April (WW); *I. augustus*, Snake R. bluffs, 100 m above river, 18 mi. S of Asotin, ASOTIN Co., 13 April (WW); *C. lygdamus*, Abe Creek crossing of SR-4 at Columbia R., T8N R5W S18, WAHAKIUM Co., 29 April (RP); *S. hydaspe*, Hull Cr. Marsh, T10N R7W S5, WAHAKIUM Co., 19 July (RP), Hull Cr. Lookout, T11N R7W S8, PACIFIC Co., 19 July (RP); *C. selene*, Marsh Unit #1, Upper Goose Lake, T17N R27E S13/14, GRANT Co., 5 May (FK); *P. faunus*, Swede Park, Gray's River, T10N R7W S17, WAHAKIUM Co., 23 September (RP); *V. annabella*, Long Beach Peninsula, W of Oysterville, T12N R11W S17, PACIFIC Co., 22 August (RP); *V. virginensis*, Swede Park, Gray's Park, T10N R7W S17, WAHAKIUM Co., 22 September (T.&D.H); *V. atalanta*, Palouse Falls State Park, FRANKLIN Co., 23 July (WW); *L. lorquini*, Swede Park, Gray's River, T10N R7W S17, Wahkiakum Co., 7 Oct., LATE (RP); *C. tullia ampelos*, Steigerwald Lake, Washougal, Clark Co., 27 October, LATE (MS); *C. pegala boopis*, Palouse Falls State Park, FRANKLIN Co., 15 August (WW); *C. pegala*, Miller Point on Deep River, T10N R8W S22, Wahkiakum Co., 1st. record in western half of county, 8 August (KE); *D. plexippus*, Young's Bay Plaza, Warrenton, CLATSOP Co., 17 July (T.T.&D.H).

BRITISH COLUMBIA. An unusually hot and dry July/August left lowland localities bereft of butterflies and the emergence above timberline early for the entire Province.

BUTTERFLIES: *P. centaureae*, Dore R., near McBride, el 6500', DISTRICT, 15 July (DT); *H. comma*, Dore R., near McBride, el 6500', DISTRICT, 15 July (DT); *P. occidentalis*, Dore R., near McBride, el 6500', DISTRICT, 15 July (DT); *C. gigantea*, 3 mi. N of Atlin, DISTRICT, 30 June (CDF); *C. nastes*, Dore R., near McBride, el 6500', DISTRICT, 15 July (DT); *C. meadii*, McBride Peak, el 7446', DISTRICT, 29 July (JHS); *L. cupreus*, Dore R., near McBride, el 6500', DISTRICT, 15 July (DT); *A. rustica*, Dore Riv., near McBride, el 6500', DISTRICT, 15 July (DT); *C. eurytheme*, Dore Riv., near McBride, el 6500', DISTRICT, 15 July (DT); *C. titania*, Dore Riv., near McBride, el 6500', DISTRICT, 15 July (DT); *C. epithore*, Dore Riv., near McBride, el 6500', DISTRICT, 15 July (DT); *C. astarte*, Dore Riv., near McBride, el 6500', DISTRICT, 15 July (DT); *C. palla*, Golden, NORTHEAST, 15/22 June (JR); *N. milberti*, McBride Peak, el 7446', DISTRICT, 29 July (JHS); *C. pegala boopis*, 3 km. W of Brisco, NORTHEAST, 25 July (JHS); *C. oetus*, 3 km. W of Brisco, NORTHEAST, 24 July (JHS); *E. magdalena*, Dore R., near McBride, el 6500', 15 July (DT); *O. melissa*, Dore R., near McBride, el 6500', DISTRICT, 15 July (DT); *O. melissa*, Dore R., near McBride, el 6500', DISTRICT, 15 July (DT); *O. polixenes*, McBride Peak, el 7446', DISTRICT, 29 July (JHS).

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ZONE 3 SOUTHWEST: ARIZONA. NEVADA. CALIFORNIA. Coordinator: R. L. Langston (RL). Contributors: G. T. Austin (GTA). L. Crabtree (LC). K. Davenport (KD). T. E. Dimock (TED). C. D. Ferris (CDF). R. C. Hamera (RCH). N. E. La Due (NEL). R. H. Leuachner (RHL). R. P. Meyer (RPM). D. Mullins (DM). B. A. O'Hara (BAO). D. Parkinson (DP). J. G. Paako (JGP). W. D. Patterson (WDP). F. & J. Preston (F/JP). R. Robertson (RR). C. A. Sekerman (CAS). A. M. Shapiro (AMS). O. Shields (OS). W. L. Swisher (WLS). J. P. Tuttle (JPT). L. V. Ventura (LVV). R. E. Wells (REW) and R. R. White (RW). No information on migrations or the "usual" migratory species for Arizona or Nevada. However, the "Migratory Species" category is included for California. The butterfly species are in the sequence of Miller & Brown, 1981, although some of the genera may differ.

ARIZONA. Five COUNTY records for butterfly species and one for a subspecies. This includes one STATE record for the subspecies. Two COUNTY and STATE records for moth species -- Noctuidae and Geometridae. Very probably additional COUNTY records for moths, but not determined by contributors or the coordinator.

BUTTERFLIES: Cogia hippalus, Sedona, COCONINO Co., 5 June (KD). Systasea zampa, Silver Cr. area W of Portal, COCHISE Co., 14, 16 Aug (CDF). Ancyloxypha arene, Sonoita Creek near Patagonia, SANTA CRUZ Co., 29 Sept (DM, CAS). Atrytonopsis deva, Pine Flat, Oak Creek Cyn., COCONINO Co., 2 June (KD). Papilio polyzenes asterius/coloro cline & P. cresphontes, Silver Cr. area W of Portal, 14, 16 Aug (CDF). Anthocharis pima scarce, "A" Mountain, 2899', Tucson, Pima Co., 16 Mar (WLS). Colias philodice, Rustler Park, Chiricahua Mtns., COCHISE Co., 16 Aug (CDF). Lycaena ferrisi, Escudilla Mtn., 9300'-9600', Apache Co., 6-7 Aug (CDF). Era quaderna sanfordi, Oak Creek Cyn., 18 July (RR). Euphilotes enoptes mojave, Lime Kiln Cyn., Virgin Mtns., MOHAVE Co., STATE record, 12 Apr (GTA, BAO). Speyeria atlantis nausicaa, S. mormonia luski & Euphydryas anicia magdalena, Escudilla Mtn., Apache Co., 6-7 Aug (CDF). Peculiar series intermediate between Thessalia cyneae & fulvia (normally treated as separate species), Silver Cr. area W of Portal, 14, 16 Aug (CDF). Junonia coenia/nigrosuffusa intermediates at 3 locations in Cochise Co.; W of Portal, 14, 16 Aug; Texas & Cottonwood Cyns., S end of the Chiricahua Mtns., 15 Aug (CDF). Cercyonis oetus charon, Escudilla Mtn., 6-7 Aug (CDF).

MOTHS: SPHINGIDAE- Hemaris diffinis, Texas & Cottonwood Canyons, S end of the Chiricahua Mtns., Cochise Co., 15 Aug (CDF). SATURNIIDAE- Hyalophora gloveri, Flagstaff, Coconino Co., 19 May; Coloradia pandora davisii ex V instar larvae on Pinus ponderosa, Kaibab Plateau, Coconino Co., 16 June; C. doris, Flagstaff, 18-19 May; Hemileuca juno ex V instar larvae on flowers of Prosopis juliflora, Sierra Vista, Cochise Co., 17 May; H. diana ex III instar larva on Quercus turbinella, Pine, Gila Co., 20 May; H. griffini ex V instar larvae on Coleogyne ramosissima (Rosaceae), Bitter Springs, Coconino Co., 20 May (all JPT). NOCTUIDAE- Abagrotis bimarginalis, 18 July, Tricholita elsinora, 26 Aug & Miracavera brillians, 18 July, Oak Creek Cyn., Coconino Co.; Lacinipolia renigera, Greer, APACHE Co., 21 Aug -- STATE record (No Arizona records in Selman's unpub. Lacinipolia revision); Pseudanarta basivirida, Trichorthosia parallela, Neleucania patricia & Pseudanthoecia tumida, Greer, 19, 21 Aug; Trichofeltia circumdata & Nephelodes carminata, Alpine, Apache Co., 22 Aug; Oncocnemis wilsonensis, 25 July & Hydroecioides ochrimacula, 20 Aug, Hualapai Mtns., Mohave Co.; Paratrachea viridescens, Turkey Cr., Cochise Co., 23 Aug (all RR). LASTIOAMPIDAE- Gloveria arizonensis & Tolype glenwoodi, W of Portal, Cochise Co., 14 Aug (CDF); Dark form of T. glenwoodi, Texas & Cottonwood Canyons, Cochise Co., 15 Aug (CDF). ZANOLIDAE- Apatelodes pudevacta, W of Portal, 14 Aug (CDF). GEOMETRIDAE- Eupithecia deserticola, rest stop near Yucca, MOHAVE Co., 29 Dec (RHL) -- STATE record (McDunnough mentions only California specimens).

NEVADA. Thirteen COUNTY records for butterfly species and two for subspecies. These include one STATE record for species (and genus) and two STATE records for subspecies. The year was dry (GTA), but during June and July in the Wassuk Range, Sweetwater Mtns. and the Carson Range collecting was better than ever before seen, with a number of species in huge numbers (GTA).

BUTTERFLIES: Hylephila phyleus, Walker Lake, Tamarack Point, MINERAL Co., 21 July (GTA); Four species of Pieridae at Austin Summit, 7500', Lander Co., P. sisymbrii elivata, P. occidentalis, E. ausonides & E. hyantis lotta, 3 June (F/JP); L. cupreus & L. editha, East Sister area, Sweetwater Mtns., both new for LYON Co., 26 June (GTA); H. grunus, Hwy. 28, 2 mi S of Washoe Co. line, Carson Range, CARSON CITY, 19 July (GTA); M. spinetorum & I. eryphon, Wheeler Peak Scenic area, 7500', White Pine Co., 2 June (F/JP); H. isola aice & L. melissa fridayi, Jackass Cr., Sweetwater Mtns., both new for DOUGLAS Co., 27 June (GTA) -- previous Lyon Co. melissa records are the lowland phenotype; G. lygdamus oro & I. icarioides ardea, Austin Summit, 3 June (F/JP); I. shasta, East Peak area, Carson Range, DOUGLAS Co., 28 June (GTA) -- previous records are of the minnehaha-like form in the Pine Nut Mtns.; S. egleis, Desert Cr., Sweetwater Mtns., LYON Co./Douglas Co., 27 June (GTA); B. epithore sierra, Hwy. 28, 2 mi S of Washoe Co. line, CARSON CITY, 1 July -- STATE record for this GENUS & species (GTA); E. anicia wheeleri common, Wheeler Peak at 7500', White Pine Co., 2 June (F/JP); A. bredowii californica, several locations near Lake Tahoe in CARSON CITY, DOUGLAS Co. & WASHOE Co., 28 June, 1 July -- STATE record for subsp. as eulalia occurs in S & SE Nevada in Clark, Lincoln and White Pine Cos. (GTA); N. ridingsii subsp., Jackass Cr., Sweetwater Mtns., DOUGLAS Co., 27 June (GTA); O. ivallda, East Peak area, Carson Range, DOUGLAS Co., 28 June (GTA); O. chryxus stanislaus, East Sister area, Sweetwater Mtns., LYON Co., 26 June -- STATE record for subsp. as nominate chryxus occurs in eastern Nevada in Elko, Lincoln & White Pine Counties (GTA).

MOTHS: Moths were taken on a number of nights by GTA, but the catch has not yet been worked up. Only a single Noctuidae reported for 1985 in Nevada; Synedoida perplexa, Kyle Cyn., Spring Mtns., Clark Co., 16 July (RR).

CALIFORNIA. Twenty-four COUNTY records for butterfly species, but no STATE records for species or subspecies. Two COUNTY records for moth species, which includes one STATE record. Conditions were excessively wet before Christmas of 1984 and excessively dry afterwards through much of spring of 1985 (AMS). A very early, hot, dry spring [(78° on 23 Feb in Oakland (RLL) and 80° on 27 Feb in Davis, (AMS)]. Snow packs poor. Most species 2-4 weeks earlier than 14 yr. mean (AMS). A 5 week winter drought in Mariposa Co., then rain and snow in Feb-March, followed by a hot summer, so poorest collecting year seen (OS). The 1985 season was poor because of drought, with many desert species not found (KD). Early flights the rule with species often gone by the time they usually peak (KD). Less fog and abnormally hot in the Coast Ranges in June and July, with record numbers of forest and brush fires (RLL). Summer hot in the Central Valley, and in the Sierra Nevada the season ending very early under extreme drought conditions (AMS). Heavy rains and snow on 9-10 Nov followed by cold abruptly ended the season (RLL, AMS).

MIGRATORY SPECIES: P. sennae marcellina- A single ♂ seen at Cinco, Kern Co., 30 April, EARLY (KD); A single ♀, Suisun Marsh, Solano Co., 13 Oct, LATE, NORTH (AMS); [Hundreds migrating the previous 2 years as per 1983, 1984 Summaries.] Nymphalis californica- Hibernants common, San Bruno Mtns., San Mateo Co., 13 Feb-11 Mar with over 50 on 26 Feb (RLL), but no population build-up as only singles in May, Sept & Oct (RLL); Flights in Mariposa Co., 14 Jan-13 Apr and again late Sept-Dec, fairly common but no migration (OS); Local defoliation of Ceanothus in Coast Range, Apr-May and adults migrating eastward across Sacramento Valley for several days centered on 21 May (AMS); Abundant on Breckenridge Mtn. above 6000', Kern Co., on 10 June (KD); Thousands moving SSW on 2 Aug between Truckee & Donner Summit (AMS); Dozens nectaring on rabbitbrush, Carson Pass, 21 Sept (AMS); Strong fall flight on Frazier Mtn & Owl's Barn, Ventura Co., 26 Sept, 4 Oct (KD); Ventura River at 180', Ventura, 16 Oct (TED), for unusual LOW elevation record [possibly disturbed by massive brush fires and blown westward by the Santa Ana winds (TED)]. V. cardui- A poor year throughout northern Calif. (RLL, AMS); Only 13 in the San Bruno Mtns., May-July, Sept-Nov (RLL); Only 12 observed, Jerseydale, 3500', Mariposa Co., Apr-June, late-Aug to mid-Oct (OS). D. plexippus- Common in Mariposa Co. in Aug and present until mid-Oct with first fall rains (OS); Reduced late summer/fall flight in the Bay Area (RLL); Top of Carson Pass, 21 Sept, LATE for 8573' (AMS); Sierra Valley, Sierra Co., 16 Oct, LATE for 5000' (AMS).

BUTTERFLIES: T. mexicana nevada, Dresser Camp, 8 mi SE of Butte Meadows, BUTTE Co., 25 July 1982 (LC). E. propertius, Castle Peak, 9000', Nevada Co., 23 Aug -- rare that HIGH and LATE (AMS). E. pacuvius lilius, Bear Cr. at Hwy. 70, 1500', BUTTE Co., 6 June (F/JP, det. R. Stanford); summit of Breckenridge Mtn., 7544', Kern Co., 10 June, SW limit of range (KD). E. p. callidus, Onyx Summit, Kern Co., 16 June (RHL). P. libya lena & P. alpheus oricus common off Westgard Pass, White Mtns., Inyo Co., 18-19 May (CAS). O. sylvanoides & O. agricola sympatric, Bear Cr. at Hwy. 70, 1500', 6-7 June (F/JP), confirming RLL 1967 records for Butte Co. O. agricola, Nine Mile Cyn., INYO Co., 25 May, 8 June (KD). E. ruricola (= vestris), Castle Crags, Shasta Co., 12 June (AMS). L. eufala, Oceano, COASTAL for San Luis Obispo Co., 7 Apr (KD); Lang Crossing, 5000', HIGH, Nevada Co., 30 Aug, with P. melane, also HIGH (AMS). M. coloradensis

martini, 1 air mi N of Lamont Peak, TULARE Co., 10 Apr (KD). B. philenor hirsuta, Suisun Marsh, Solano Co., 26 June (AMS); vic. Courtland, Sacramento Co., 19 Sept, LATE (REW). P. eurymedon, near Chuchupate Camp, Frazier Mtn., Ventura Co., 4 Oct, unusually LATE (KD). P. protodice vernalis, Milagra Ridge, SAN MATEO Co., 12 Apr (RLL). Thousands of P. beckerii, protodice & occidentalis on 24 Aug, Sierra Valley, 5000', Sierra Co., a 3-species snowstorm (AMS), but autumn flights poor. Second brood P. napi castoria (pure white underside), Jerseydale, 3500', Mariposa Co., 21 May (OS). A. cethura morrisoni peak flights, both sexes 22 Feb, EARLY & 1 Mar, 2-6 mi N of McKittrick, Kern Co. (WLS). C. philodice, Troy Meadows, TULARE Co., 14 July (Tony Leigh via KD, JGP), det. by J. Emmel. C. harfordii, below Chuchupate Camp, Ventura Co., 4 Oct, LATE (KD), supporting FALL broods cited in past Summaries. Eurema nicippe, Richbar, Kern Cyn. a winter hibernant on 25 Jan in southern Sierra Nevada, EARLY (KD) & E of Walker Pass at 4650', 18 June (F/JP) -- both Kern Co. One pair of N. iole, Atherton, SAN MATEO Co., 15 Oct 1952 (WDP) -- NORTH for coastal Calif. L. gorgon, Nine Mile Cyn., INYO Co., 25 May, 8 June (KD). L. heteronea, Silver City & 2 mi W of Cabin Cove, Sequoia N. P., both TULARE Co., 5 July (KD). L. nivalis, Mineral King Valley, 5 July & Monarch Lakes Trail, 8500-9500', 26 July, both TULARE Co. (KD). L. hermes common, Poser Mtn., San Diego Co., 8 June (CAS). H. grunus, Feather R. Cyn. at 1500', 6 June, EARLY (F/JP). A. halesus, Donner Pass, 7000', 25 Sept & Sierra Valley, 5000', SIERRA Co., 5 Oct (AMS). S. tetra, Bear Cr. at Hwy 70, 1500', Feather R. Cyn., BUTTE Co., 6-7 June (F/JP). M. johnsoni, American R. below Auburn, Placer Co., 23 Mar (NEL). I. augustus iroides, Nine Mile Cyn., INYO Co., 25 May (RPM) & Lytle Cr., San Bernardino (S. Bdno) Co., 18 Feb, EARLY (RLL). I. fotis windi, American R., 3 mi SE of Auburn, 16 Mar (DP). L. marina, 15 May 52 1♂, 15 Sept 1952, 1♀, Atherton, SAN MATEO Co. (WDP); 24 Aug 1985 1♀, Suisun Marsh, Solano Co. (AMS). A single ♂ H. isola alce, top of Kings Mtn. Rd., W of Woodside, SAN MATEO Co., 15 Sept 1952 (WDP); a fresh ♀, Bald Mtn., 9382', Tulare Co., 14 July (JGP). E. comyntas, Venida & Kaweh R. at Hwy. 216 & 5 mi S of Woodlake, both TULARE Co., 6 Sept, in assoc/w Melilotis indicus S of Woodlake (KD); Lang Crossing, 5000', HIGH, NEVADA Co., 30 Aug (AMS). P. sonorensis, Pleito Cr. (S end of San Joaquin Vy.), KERN Co., 16 Apr 1981 (WDP); 1 air mi N of Lamont Peak, 5600', TULARE Co., 10 Apr (KD). P. speciosa, Reed Flat, 10,000', White Mtns., Inyo Co., 22 June, HIGH (JGP). P. saepiolus hilda, Onyx Summit, Kern Co., 16 June (RHL). Very large colony of I. neurona, Butterbredt Peak, Kern Co., 28 Apr thru May (JGP). Calephelis wrighti, Poser Mtn., San Diego Co., 8 June (CAS). A. mormo, Washington Rd. serpentine barrens, 4000', Nevada Co., 22 Sept (AMS). Unreported colony of S. nokomis apacheana, Murphy Springs, 8000', 3 mi W of Bodie, Mono Co. (REW). S. callippe inornata, Jerseydale, 3500', Mariposa Co., 23 May, first of season, EARLY (OS). S. egleis, Pine Flat, Tulare Co., 2 Aug, SOUTH for nominate (KD). T. leanira alma common off Westgard Pass, White Mtns., Inyo Co., 18-19 May (CAS). Chlosyne californica, Tom's Hill, KERN Co., 13 Apr (RPM). P. orseis herlani, Luther Pass, El Dorado Co., 29 June (AMS). E. chalcedona, San Bruno Mtns., 11 Mar, EARLY & a single torn ♀, 14 Oct, very LATE (RLL). E. c. macglashani, Lang Crossing, 13 Apr, EARLY for 5000' (AMS). E. editha augusta, Onyx Summit, Kern Co., 16 June (RHL). Nr. augusta, Troy Mtns., Tulare Co., 5, 14 July; adults and pre-diapause larvae on Castilleja, 14 July (JGP). E. e. bayensis, 2 mi E of Morgan Hill, Santa Clara Co., 22 Feb, EARLIEST ever recorded (RRW, S. Weiss) & common, fresh on 6 Apr, LATE in comparison, Edgewood Park, San Mateo Co. (RLL, DP). P. satyrus neomarsyas, Drakesbad, Lassen Volcanic N. P., PLUMAS Co., 24 June 84 (LC); Suisun Marsh, Solano Co., 3 Nov, LATE (AMS). P. faunus rusticus, HIGH, 25 June, 20 Aug; plus 2nd., 3rd. times in 14 years for P. oreas, Donner Pass area, 7000', Nevada Co., 25 & 30 June (AMS). V. atalanta rubria, Susan R., W of Susanville, LASSEN Co., 27 Apr (LC). B. lorquini, Deer Creek Cyn. 15 air mi SW of Chester, TERAMA Co., 5 July (LC). A. bredowii californica, Susan R. Cyn., 1 mi W of Susanville, LASSEN Co., 21 Sept (LC). C. ampelos, near Satterly, 5200', SIERRA Co., 9 June (F/JP) [R. Stanford's Co. list records tullia, possibly referring to C. californica]; Donner Pass, 7000', 27 July, second in 14 yrs. (AMS). N. ridingsii stretchii common both 22 June 1984 & 22 June 1985, vic. Reed Flat, 10,000', White Mtns., Inyo Co. (JGP).

MOTHS: SPHINGIDAE- Manduca sexta larvae on Datura metaloides, San Andreas rift area, Palmdale, Los Angeles (L.A.) Co., 19-26 July (RCH); Calasymphyla myops, Jerseydale, 3500', Mariposa Co., 21-22 June (OS); Arctonotus lucidus, Castaic, L. A. Co., 11 Feb (LVV). SATURNIIDAE- 1 ♂ Hyalophora euryalis at light 24 July, very LATE, San Bruno Mtns., 1300', San Mateo Co. (RLL); 22 ♂♂ Coloradia pandora, Jerseydale, 8 nights from 29 Aug to 16 Sept (OS); Hemileuca nutalli, 15 V instar larvae on Purshia tridentata in peaks 1 mi S of Carson Spur, AMADOR Co., 30 June (REW). NOCTUIDAE- Eudryas brevipennis, La Grange, Stanislaus Co., 6 July (R. P. Allen via RR); Lacinipolia leucogramma, Bodega Bay, Sonoma Co., 14 Sept (RR); Dicestra farnhami, Sonora Pass, Tuolumne Co., 30 June (RR); Orthodes carneola, O. hanhami semicarnea & Septis genialis, Barton Flats, S. Bdno. Co., 14-15 June (RHL); Zosteropoda hirtipes, 26 July & Leucania farcta, 12 Sept, 30 Oct, Brisbane, San Mateo Co. (RLL); Rancora comstocki, summit of Cajon Pass, S. Bdno. Co., 9 Jan & San Andreas rift area, Palmdale, 11 Jan (RCH); Lathosea pulla, summit of Cajon Pass, 14 Jan (RCH); Pleroma obliquata, San Bruno Mtns., 26-27 Feb (RLL); Pleroma new sp. near bonuscula, Pine Hills, San Diego Co., 23 Mar (RHL); Eros proprius, June Lake, Mono Co., 27 July (RR); Lamylis discolor, Sonora Jct., Mono Co., 28 Aug (RR); Papaipema harrisii, San Bruno Mtns., 16 Sept (RLL); Fotella olivoides, Providence Mtns., S. Bdno Co., 6 Apr (RR); Annaphila danistica, Kern River Cyn. at 2000', Kern Co., 31 Mar (RHL); Helionolche modicella, Santa Rosa, Sonoma Co., numerous adults assoc/w Microseris laciniata, 2 May (RR); Schinia mortua, Santa Rosa, 7 Aug (RR); S. pulchrapennis, Grapevine, Kern Co., 2 Apr (LVV); Ponometia sutrix, Aguanga, 22 Sept (RHL); Hyponopsis macula, Aguanga, RIVERSIDE Co., 19 Oct, possibly a STATE record -- RHL has seen it only from Arizona. LASICAMPIDAE- Gloveria medusa, Castaic, L. A. Co., 2 Sept (LVV). GEOMETRIDAE- Nemoria punctularia, Chlorosea banksaria & Merochlora faseolaria common, San Bruno Mtns., 17 June (RLL), the latter thru July; Nothopteryx veritata, Pala, San Diego Co., 24 Feb (RHL); "Triphosa" new sp. near bipunctinata, Pinyon Crest, Riverside Co., 21 Sept (RHL); 15 Eupithecia macdunnoughi, Los Angeles, 21 Feb (RHL); Stannodes delicata, San Bruno Mtns., 18 Jan, EARLY (RLL); Lobophora canavestita & Hydriomena borussata, Barton Flats, S. Bdno. Co., 14-15 June (RHL); H. modestata & H. edenata olivata, Pine Hills, San Diego Co., 23 Mar (RHL). PYRALIDAE- Pyrausta grotei Munroe, Colma Cyn. E. of Daly City, San Mateo Co., 28 May (RLL); Rhagea stigmella abundant, San Bruno Mtns., mid-Sept-Oct (RLL). OECOPHORIDAE- Agonopteryx alstroemeriana (Clerck), San Bruno Mtns., 18 Dec (RLL); Exaeretia thoracefasciella, Colma Cyn., Daly City, 13 Mar (RLL). ETHMIIDAE- Ethmia coquilletella & the rare E. tricula, Pinyon Crest, 24 Mar (RHL); E. aridicola common, Kern River Cyn. at 2000', 31 Mar (RHL); E. arctostaphylella (Yerba Santa Bird-dropping Moth), Lytle Cr., S. Bdno. Co., 18 Feb, EARLY (RLL) and first time for San Bruno Mtns., San Mateo Co., 21 May (RLL). GLYPHIPTERYGIDAE- Elabella melanoclista, Pine Hills, 23 Mar (RHL).



ZONE 4. ROCKY MOUNTAINS: ALBERTA, MONTANA, WYOMING, UTAH, COLORADO and NEW MEXICO. Coordinator: Ray E. Stanford (RES). Contributors: Dale L. Barlow (DLB), F. Martin Brown (FMB), John M. Burns (JMB), Steven J. Cary (SJC), James C. Coleman (JCC), Charles V. Covell Jr (CVC), Dennis A. Currutt (DAC), Terhune S. Dickel (TSD), Boyce A. Drummond (BAD), Scott L. Ellis (SLE), Clifford D. Ferris (CDF), Michael S. Fisher (MSF), James P. Fitter (JPF), Clyde F. Gillette (CFG), Richard L. Hardesty (RLH), Jack L. Harry (JLH), William H. Howe (WHH), Joel M. Johnson (JMJ), Lewis C. Keenan (LCK), Richard L. Klopshinske (RLK), Steven J. Kohler (SJK), Norbert G. Kondla (NGK), Benjamin H. Landing (BHL), Ronald H. Leuschner (RHL), Paul A. Opler (PAO), Jerry A. Powell (JAP), Floyd and June Preston (F/JP), Richard C. Rosche (RCR), Patrick and/or Susan Savage (PJS, P/SS), James A. Scott (JAS), Charles P. Slater (CPS), Stephen W. Sommerfeld (SWS),

Steve Stone (SS), William L. Swisher (WLS), Michael E. Toliver (MET). TOTAL 36; only 1980 had more (44). Except for TSD's report, moth data were the lowest in 20 years, but the volume of butterfly (bf) data was the best ever! Data received included 1839 total records, of which 1560 were for bfs and 279 were for moths. There were 1305 bf county records, beating the previous high of 723 in 1982 by nearly twice; 291 of them constituted range extensions; 15 State records, and 9 species new from Zone 4. Five additional species were completed from all counties of a particular State. Data were received for new highs of 264 bf species and 217 moth species. In 1984 and 1985 combined there were records for 288 bf species, and I predict that the total for 3 years should be over 300 species. The season was described as generally good, with a few exceptions. Only a few exotic species were observed, and there were no significant migrations. As in 1984, several observers spent a lot of time on the eastern prairies of MT, WY, CO and NM, with excellent results. Probably the most important discovery in 1985 was *Thymelicus lineola* in Colorado. Two people (JLH and PAO) submitted records from all 5 States in Zone 4, and SJK sent nearly 550 bf records from MT alone. The Summary format is as in previous years, except that I have made decisions as to which generic names to use for bfs to save space. Each reader may substitute whatever generic abbreviations he/she chooses. The year for all records is 1985 except as noted. Capitalized COUNTY names indicate county records for my file; they are not necessarily the earliest county records, but the majority are.

ALBERTA. Contributor: NGK. The season was reported as poor, but he sent maps for nearly all butterfly species in the Province. With "southern" Alberta defined as the portion south of an E-W line through Calgary, and SW, SC and SE portions defined by N-S lines dividing southern Alberta into three equal sized areas (write to NGK or me for the exact boundaries), the following are new "dots" on the maps in Butterflies of the Rocky Mountain States or on those issued by me subsequently. True range extensions are indicated by EAST, SOUTH or WEST.

BUTTERFLIES: *E. icelus*, SC. *E. afranius*, SW, WEST. *E. persius*, SC. *P. communis*, SW. *P. draco*, SC. *P. mystic*, SE. *O. sylvanoides*, SC. *A. vialis*, SC. *P. phoebus*, SC, EAST. *E. creusa*, SC, EAST. *A. sara*, SC. *C. gigantea*, SC. *C. interior*, SC. *L. hyllus*, SE. *L. mariposa*, SC. *C. sheridanii*, SC, EAST. *M. spinetorum*, SW, EAST. *I. augustus*, SC. *I. polios*, SC. *I. acmon*, SE. *E. enoptes*, SC, WEST. *B. eunomia*, SC. *B. selene*, SC, SE. *B. frigga*, SC, EAST. *B. freija*, SC. *B. titania*, SC. *C. gorgone*, SW, WEST. *P. batesii*, SC, WEST. *E. gilletti*, SC, EAST. *E. editha* near *hutchinsi*, Cypress Hills, 26 Jun 1984, SE (NGK). *P. faunus*, SC. *P. progne*, SW, WEST. *N. vau-album*, SE. *V. carye annabella*, SE. *N. ridingsii*, SW, WEST. *O. chryxus*, SC, EAST. *O. polixenes*, SW, SOUTH.

MOTHS: No data were received.

MONTANA. Contributors: RLH, JLH, SJK, PAO, F/JP. The season was wet, then dry, but good.

BUTTERFLIES: There were 590 data points received, the largest total from any State or Province in Zone 4 ever. Represented were 116 species, 50 of 56 counties, 509 county records and 1 state record. The average number of bf species per county is now 64.68 compared with 54.95 a year earlier, a major advance in knowledge. All skipper determinations have been verified by CDF. *E. clarus*, S of Ft Peck Dam, MCCONE Co, 4 Jun; 9 mi SE of Outlook, SHERIDAN Co, NE, 4 Jul (both SJK). *E. icelus*, 4 mi W of Heart Butte, PONDERA Co, 23 May; 20 mi W of Choteau, TETON Co, 20 May 1984 (both SJK). *E. afranius*, N of Georgetown Lk, DEER LODGE Co, 12 Jul; S of Livingston, PARK Co, 9 May; 4 mi W of Heart Butte, PONDERA Co, 23 May; Divide Crk, SILVER BOW Co, 15 May (all SJK). *E. persius*, E of Warm Spgs, DEER LODGE Co, 28 Jun 1984; 4 mi W of Heart Butte, PONDERA Co, 23 May (both SJK). *P. ruralis*, McKay Crk, nr Noxon, SANDERS Co, 21 May; Divide Crk, nr Feeley, SILVER BOW Co, 30 Apr (both SJK). *P. communis*, nr Grassrange, FERGUS Co, 27 Aug; 4 mi W of Havre, HILL Co, 13 Aug; N of Martinsdale, MEACHER Co, 29 Aug; S of Mosby, PETROLEUM Co, 27 Aug; E of Plentywood, SHERIDAN Co, 14 Aug; Feeley, SILVER BOW Co, 9 Jul; nr Glasgow, VALLEY Co, 13 Aug; Wibaux, WIBAUX Co, 15 Aug (all SJK). *P. catullus*, S of Ft Peck Dam, MCCONE Co, 4 Jun; Sidney, RICHLAND Co, 14 Aug; 20 mi NE of Wolf Point, ROOSEVELT Co, 4 Jun; 12 mi SE of Plentywood, SHERIDAN Co, 5 Jun; Wibaux, WIBAUX Co, 15 Aug (all SJK). *C. palaeon*, Flint Crk, GRANITE Co, 11 Jul (SJK). *O. garita*, Feeley, SILVER BOW Co, 9 Jul (SJK). *H. uncas*, 20 mi W of Circle, MCCONE Co, 12 Aug 1984 (SJK). *H. juba*, E of Townsend, BROADWATER Co, 29 Aug; E of Mosby, GARFIELD Co, NE, 27 Aug; 5 mi W of Lavina, GOLDEN VALLEY Co, 29 Aug; N of Martinsdale, MEACHER Co, 29 Aug; E of Roundup, MUSSELSHELL Co, 27 Aug; nr Forsyth, ROSEBUD Co, 13 Sep 1984 (all SJK). *H. comma*, S of Custer, BIG HORN Co, 28 Aug; W of Flaxville, DANIELS Co, NE, 14 Aug; N of Georgetown Lk, DEER LODGE Co, 11 Jul; nr Grassrange, FERGUS Co, 27 Aug; E of Mosby, GARFIELD Co, 27 Aug; Bearmouth, GRANITE Co, 15 Jul; 20 mi W of Circle, MCCONE Co, 12 Aug 1984; S of Mosby, PETROLEUM Co, 27 Aug; nr Forsyth, ROSEBUD Co, 13 Sep 1984; Feeley, SILVER BOW Co, 9 Jul; nr Shawmut, WHEATLAND Co, 29 Aug (all SJK). *H. leonardus pawnee*, 20 mi W of Circle, MCCONE Co, 12 Aug 1984; nr Forsyth, ROSEBUD Co, 13 Sep 1984 (both SJK). *H. nevada*, N of Niarada, SANDERS Co, NW, 24 May; E of Feeley, SILVER BOW Co, 10 Jul; nr Shawmut, WHEATLAND Co, 29 Aug, LATE! (all SJK). *P. peckius*, N of Glen, BEAVERHEAD Co, 7 Aug; nr Winston, BROADWATER Co, 15 Jul; nr Galen, DEER LODGE Co, 17 Jul 1984; Drummond, GRANITE Co, 5 Aug; S of Melrose, MADISON Co, 7 Aug; W of Martinsdale, MEACHER Co, 18 Jul; Deer Lodge, POWELL Co, 5 Aug; S of Florence, RAVALLI Co, SW, 20 Jul; 2 mi E of Dixon, SANDERS Co, 1 Aug; Feeley, SILVER BOW Co, 9 Jul (all SJK). *P. draco*, Feeley, SILVER BOW Co, 9 Jul (SJK). *P. themistocles*, nr Galen, DEER LODGE Co, 17 Jul 1984; 4 mi SE of Plentywood, SHERIDAN Co, NE, 4 Jul (both SJK). *P. mystic*, Balantine, YELLOWSTONE Co, 17 Jul (SJK). *P. sonora*, Flint Crk, GRANITE Co, 11 Jul (SJK). *A. logan lagus*, 9 mi SE of Outlook, SHERIDAN Co, NE, 4 Jul (SJK). *O. sylvanoides*, S of Custer, BIG HORN Co, 28 Aug; Lohman, BLAINE Co, 13 Aug; 2 mi E of Flaxville, DANIELS Co, 5 Jul, EARLY; nr Grassrange, FERGUS Co, 27 Aug; Havre, HILL Co, 13 Aug; 20 mi W of Circle, MCCONE Co, 12 Aug 1984; N of Martinsdale, MEACHER Co, 29 Aug; S of Mosby, PETROLEUM Co, 27 Aug; Deer Lodge, POWELL Co, 5 Aug; nr Wolf Point, ROOSEVELT Co, 14 Aug; 6 mi W of Forsyth, ROSEBUD Co, 28 Aug; 4 mi SE of Plentywood, SHERIDAN Co, 4 Jul, EARLY; nr Shawmut, WHEATLAND Co, 29 Aug (all SJK). *A. vialis*, 4 mi W of Heart Butte, PONDERA Co, 23 May; S of Culbertson, ROOSEVELT Co, EAST, 5 Jun; W of Choteau, TETON Co, 23 May (all SJK). *P. clodius*, STILLWATER Co (USNM/PAO). *P. phoebus*, E of Townsend, BROADWATER Co, 15 Jul; N of Georgetown Lk, DEER LODGE Co, 12 Jul; E of Feeley, SILVER BOW Co, 10 Jul (all SJK). *P. bairdii oregonius*, E of Mosby, GARFIELD Co, 27 Aug; S of Mosby, PETROLEUM Co, 27 Aug; Butte, SILVER BOW Co, 7 Aug (all SJK). *P. zelicaon*, Milligan Cn, JEFFERSON Co, 30 Apr (SJK). *P. rutulus*, 5 mi W of Lavina, GOLDEN VALLEY Co, 29 Aug (SJK). *P. multicaudatus*, CARBON Co (USNM/PAO). *P. eurymedon*, Polaris, BEAVERHEAD Co, 13 May 1940 (H. A. Howland, hereafter HAH/SJK); N Fk Dodge Crk, LINCOLN Co, NW (RLH). *P. sisymbrii*, 20 mi N of Hardin, BIG HORN Co, 27 Apr; Bull Mts, S of Roundup, MUSSELSHELL Co, 26 Apr; Trail Crk Rd, S of Livingston, PARK Co, 9 May; 2 mi N of Park City, STILLWATER Co, 27 Apr; N of Big Timber, SWEET GRASS Co, 9 May; nr Myers, TREASURE Co, EAST, 27 Apr; 2 mi N of Pompeys Pillar, YELLOWSTONE Co, 26 Apr (all SJK). *P. protodice*, Terry, PRAIRIE Co, 13 Jul 1972 (JLH); Culbertson, ROOSEVELT Co, 4 Jul (SJK). *P. occidentalis*, S of Ekalaka, CARTER Co, SE, 15 Aug; E of Mosby, GARFIELD Co, 27 Aug; 4 mi W of Havre, HILL Co, 13 Aug; S of Ft Peck Dam, MCCONE Co, 4 Jun; E of Roundup, MUSSELSHELL Co, 27 Aug; S of Mosby, PETROLEUM Co, 27 Aug; Malta, PHILLIPS Co, 13 Aug; Sidney, RICHLAND Co, 14 Aug; Redstone, SHERIDAN Co, NE, 4 Jun; Feeley, SILVER BOW Co, 9 Jul; nr Glasgow, VALLEY Co, 13 Aug; Judith Gap, WHEATLAND Co, 18 Jul; Wibaux, WIBAUX Co, 15 Aug (all SJK). *P. napi*, Flint Crk, DEER LODGE Co, 11 Jul; W of Choteau, TETON Co, 23 May (both SJK). *P. rapae*, DAWSON, FALLON, FERGUS, GARFIELD, GOLDEN VALLEY, HILL, JUDITH BASIN, LINCOLN, NW, MCCONE, MUSSELSHELL, PETROLEUM, RICHLAND, ROOSEVELT, SHERIDAN, NE, SILVER BOW, VALLEY and WIBAUX Counties, 26 Apr - 29 Aug (all SJK; shared with RLH in

Lincoln Co). E. ausonides, E of Townsend, BROADWATER Co, 10 May; 2 mi N of Park City, STILLWATER Co, 27 Apr; W of Choteau, TETON Co, 23 May; S of Two Dot, WHEATLAND Co, 9 May; SE of Billings, YELLOWSTONE Co, 25 Apr (all SJK). E. hyantis, Polaris, BEAVERHEAD Co, 25 Jun 1943 (HAH/SJK). E. olympia, 20 mi N of Hardin, BIG HORN Co, 27 Apr; 2 mi N of Park City, STILLWATER Co, 27 Apr; nr Myers, TREASURE Co, 27 Apr (all SJK). A. sara, Bull Lake, 6 May (SJK), and Pinkham Crk, 9 Jun (RLH), LINCOLN Co, NW; W of Choteau, TETON Co, 23 May (SJK); S of Two Dot, WHEATLAND Co, 9 May (SJK). C. eurytheme, BIG HORN, BLAINE, BROADWATER, DAWSON, DEER LODGE, FALLON, GOLDEN VALLEY, HILL, JUDITH BASIN, PETROLEUM, PONDERA, RICHLAND, ROOSEVELT, SHERIDAN, NE, SILVER BOW, VALLEY and WIBAUX Counties, 23 May - 29 Aug (all SJK). C. philodice, S of Savage, RICHLAND Co, 5 Jun; Redstone, SHERIDAN Co, NE, 4 Jun (both SJK); this becomes the first bf species to be known from all Montana counties, and is now known from all counties in Zone 4 except Mineral Co, Colorado! (See further comments for New Mexico and Utah). C. alexandra, Georgetown Lk, DEER LODGE Co, 11 Jul (SJK). C. interior, Polaris, BEAVERHEAD Co, 1 Aug 1943 (HAH/SJK); Flint Crk, DEER LODGE Co, 11 Jul (SJK). L. xanthoides, Lohman, BLAINE Co, 13 Aug; Moore, FERGUS Co, 18 Jul; W of Buffalo, JUDITH BASIN Co, 18 Jul; N of Vida, MCCONE Co, 14 Aug, LATE; W of Martinsdale, MEAGHER Co, 18 Jul; Saco, PHILLIPS Co, 6 Jul; S of Culbertson, RICHLAND Co, 4 Jul; Culbertson, ROOSEVELT Co, 4 Jul; 9 mi SE of Outlook, SHERIDAN Co, NE, 4 Jul; Judith Gap, WHEATLAND Co, 18 Jul; Balantine, YELLOWSTONE Co, 17 Jul (all SJK). L. editha, SW of White Sulphur Spgs, MEAGHER Co, 15 Jul (SJK). L. hyllus, N of Glen, BEAVERHEAD Co, SW, 7 Aug; Lohman, BLAINE Co, 13 Aug; nr Winston, BROADWATER Co, 15 Jul; Moore, FERGUS Co, 18 Jul; Lavina, GOLDEN VALLEY Co, 27 Aug; 4 mi W of Havre, HILL Co, 13 Aug; W of Buffalo, JUDITH BASIN Co, 18 Jul; S of Melrose, MADISON Co, 7 Aug; W of Martinsdale, MEAGHER Co, 18 Jul; E of Roundup, MUSSELSHELL Co, 27 Aug; S of Mosby, PETROLEUM Co, 27 Aug; Deer Lodge, POWELL Co, 5 Aug; Sidney, RICHLAND Co, NE, 14 Aug; 6 mi W of Forsyth, ROSEBUD Co, 28 Aug; Butte, SILVER BOW Co, 7 Aug; E of Billings, YELLOWSTONE Co, 27 Aug (all SJK). L. rubidus, BROADWATER Co (USNM/PAO); Bearmouth, GRANITE Co, 10 Jul (SJK); SW of White Sulphur Spgs, MEAGHER Co, 15 Jul (SJK); TOOLE Co (USNM/PAO). L. heteronea, Bearmouth, GRANITE Co; E of Helena, JEFFERSON Co (both 15 Jul, SJK). L. helloides, BROADWATER and MINERAL Counties (USNM/PAO); BLAINE, CARTER, SE, DAWSON, FALLON, GARFIELD, GOLDEN VALLEY, HILL, MUSSELSHELL, PETROLEUM, POWELL, RICHLAND, ROOSEVELT, SHERIDAN, NE, SILVER BOW, TREASURE, VALLEY, WHEATLAND and WIBAUX Counties, 4 Jul - 29 Aug (all SJK). L. mariposa, Polaris, BEAVERHEAD Co, 14 Jul 1941 (HAH/SJK); E of Feeley, SILVER BOW Co, 10 Jul (SJK). H. titus, E of Townsend, BROADWATER Co, 15 Jul; SW of White Sulphur Spgs, MEAGHER Co, 15 Jul; E of Bighorn, TREASURE Co, 17 Jul; Nashua, VALLEY Co, 6 Jul (all SJK). S. saepium, W of Looking Glass Hill, GLACIER Co, NE, 4 Jul; Balantine, YELLOWSTONE Co, 17 Jul (all SJK). S. liparops, 2 mi E of Flaxville, DANIELS Co, 5 Jul; S of Culbertson, RICHLAND Co, 4 Jul; nr Bainville, ROOSEVELT Co, 4 Jul; 1 mi S of Antelope, SHERIDAN Co, NE, 4 Jul; E of Bighorn, TREASURE Co, 17 Jul; Nashua, VALLEY Co, 6 Jul (all SJK). C. sheridani, E of Townsend, BROADWATER Co, 2 May; nr Belt, CASCADE Co, 2 May; nr Lincoln, LEWIS & CLARK Co, 1 May; 21 mi N of White Sulphur Spgs, MEAGHER Co, 2 May; Trail Crk Rd, S of Livingston, PARK Co, 9 May (all SJK). M. spinetorum, Trail Crk Rd, S of Livingston, PARK Co, 9 May (SJK). M. byrnei, Bull Lake, LINCOLN Co, NW and 3d STATE, 21 May (SJK). M. siva, S of Ft Peck Dam, MCCONE Co, 4 Jun; SW of White Sulphur Spgs, MEAGHER Co, 15 Jul, LATE; E of Terry, PRAIRIE Co, 5 Jun; river breaks, S of Culbertson, RICHLAND and ROOSEVELT Co's, NE, 5 Jun; nr Ft Peck Dam, VALLEY Co, 3 Jun; S of Two Dot, WHEATLAND Co, 9 May (all SJK). I. augustus, nr Happs Inn, LINCOLN Co, NW, 3 May; 4 mi W of Heart Butte, PONDERA Co, 23 May; W of Choteau, TETON Co, 23 May (all SJK). I. mossii, Bull Lk, LINCOLN Co, NW, 6 May; nr Ovando, POWELL Co, 1 May (both SJK). I. polios, Hyalite Cn, S of Bozeman, GALLATIN Co, 8 May (SJK); nr Happs Inn, 3 May (SJK), and Arnold's Pond, 11 Jun (RLH), LINCOLN Co, NW; W Fk Madison Rvr nr Lyon, MADISON Co, SW, 8 May; nr Ovando, POWELL Co, 1 May (both SJK). I. eryphon, 20 mi N of Hardin, BIG HORN Co, 27 Apr; E of Townsend, BROADWATER Co, 10 May; Bull Mts, S of Roundup, MUSSELSHELL Co, 26 Apr; Trail Crk Rd, S of Livingston, PARK Co, 9 May; 4 mi W of Heart Butte, PONDERA Co, 23 May; W of Choteau, TETON Co, 23 May; nr Myers, TREASURE Co, 27 Apr; S of Two Dot, WHEATLAND Co, 9 May; SE of Billings, YELLOWSTONE Co, 25 Apr (all SJK). S. melinus, Lohman, BLAINE Co, 13 Aug; E of Townsend, BROADWATER Co, 29 Aug; 5 mi W of Lavina, GOLDEN VALLEY Co, 29 Aug; E of Roundup, MUSSELSHELL Co, 27 Aug; S of Mosby, PETROLEUM Co, 27 Aug; nr Shawmut, WHEATLAND Co, 29 Aug (all SJK). E. amyntula, Polaris, BEAVERHEAD Co, 21 Jun 1941 (HAH/SJK); E of Feeley, SILVER BOW Co, 10 Jul (SJK). C. argiolus (ladon), Polaris, BEAVERHEAD Co, 15 May 1941 (HAH/SJK); nr Belt, CASCADE Co, 2 May; nr Happs Inn, LINCOLN Co, NW, 6 May; W Fk Madison Rvr nr Lyon, MADISON Co, SW, 8 May; Trail Crk Rd, S of Livingston, PARK Co, 9 May; nr Ovando, POWELL Co, 1 May; Divide Crk nr Feeley, SILVER BOW Co, 30 Apr; nr Myers, TREASURE Co, 27 Apr; S of Two Dot, WHEATLAND Co, 9 May (all SJK). G. lygdamus, 5 mi E of Scoby, DANIELS Co, 4 Jun; nr Glendive, DAWSON Co, 5 Jun; S of Ft Peck Dam, MCCONE Co, 4 Jun; river breaks, S of Culbertson, RICHLAND Co, 5 Jun; nr Wolf Point, ROOSEVELT Co, 4 Jun; Redstone, SHERIDAN Co, NE, 4 Jun; W of Choteau, TETON Co, 23 May; nr Myers, TREASURE Co, 27 Apr; S of Two Dot, WHEATLAND Co, 9 May (all SJK). L. idas, Deep Crk, E of Townsend, BROADWATER Co, 15 Jul; SW of White Sulphur Spgs, MEAGHER Co, 15 Jul; Feeley, SILVER BOW Co, 9 Jul (all SJK). L. melissa, N Fk Dodge Crk, LINCOLN Co, NW, 11 Jun (RLH); Ryegate, GOLDEN VALLEY Co, 18 Jul; Fish Crk Rd, MINERAL Co, 30 Aug; E of Feeley, SILVER BOW Co, 10 Jul (all SJK). This species is known from all but Liberty and Sanders Counties, and is likely to become the first Lycaenid to be recorded from all counties in Zone 4. P. saepiolus, 5 mi E of Scoby, DANIELS Co, 4 Jun; 20 mi NE of Wolf Point, ROOSEVELT Co, NE, 4 Jun; W of Choteau, TETON Co, 23 May (all SJK). I. acmon, BROADWATER Co (USNM/PAO); 1.3 mi N of Terry, PRAIRIE Co, EAST, 12 Aug 1972 (JLH). I. shasta, N of Georgetown Lk, DEER LODGE Co, 12 Jul (SJK); Looking Glass Hill, GLACIER Co, NW, 14 Jul (RLH); W of Helena, LEWIS & CLARK Co, 15 Jul; Elliston, POWELL Co, 15 Jul; Feeley, SILVER BOW Co, 9 Jul (all SJK). A. glandon, BROADWATER Co (USNM/PAO). A. mormo, 36 mi NE of Hardin, TREASURE Co, SW, 10 Sep 1971 (JLH). E. claudia, 2 mi E of Flaxville, DANIELS Co, 5 Jul; 12 mi SE of Plentywood, SHERIDAN Co, NE, 5 Jun; E of Bighorn, TREASURE Co, 17 Jul (all SJK). S. cybele nr cybele, 2 mi E of Flaxville, DANIELS Co, 5 Jul; nr Bainville, ROOSEVELT Co, 4 Jul; 4 mi SE of Plentywood, SHERIDAN Co, NE, 4 Jul. S. c. leto, Georgetown Lk, DEER LODGE Co, 11 Jul; mts E of Feeley, SILVER BOW Co, 10 Jul (all SJK). S. aphrodite, W of Flaxville, DANIELS Co, 14 Aug; 16 mi NE of Baker, FALLON Co, 15 Aug; S of Mosby, PETROLEUM Co, 27 Aug; Sidney, RICHLAND Co, 14 Aug; 20 mi NE of Wolf Point, ROOSEVELT Co, 14 Aug; E of Plentywood, SHERIDAN Co, NE, 14 Aug; nr Glasgow, VALLEY Co, 13 Aug; Wibaux, WIBAUX Co, 15 Aug (all SJK). S. edwardsii, Polaris, BEAVERHEAD Co, 29 Jul 1940 (HAH/SJK); 25 mi SW of Lodge Grass, BIG HORN Co, 6 Sep 1971, LATE (JLH); Deep Crk, E of Townsend, BROADWATER Co, 29 Aug; E of Mosby, GARFIELD Co, 27 Aug; S of Mosby, PETROLEUM Co, 27 Aug; nr Shawmut, WHEATLAND Co, 29 Aug; E of Billings, YELLOWSTONE Co, 27 Aug (all SJK). S. zerene, S of Mosby, PETROLEUM Co, 27 Aug; 6 mi W of Forsyth, ROSEBUD Co, EAST, 28 Aug; E of Billings, YELLOWSTONE Co, 27 Aug (all SJK). S. callippe, 2 mi E of Flaxville, DANIELS Co, 5 Jul; Flint Crk, DEER LODGE Co, 12 Jul; S of Culbertson, RICHLAND Co, 4 Jul; Culbertson, ROOSEVELT Co, 4 Jul; 9 mi SE of Outlook, SHERIDAN Co, NE, 4 Jul (all SJK). S. egleis, Flint Crk, Discovery Basin Rd, DEER LODGE Co, 11 Jul (SJK); Rondo Rd at Pinkham Crk, LINCOLN Co, NW, 11 Jun (RLH). S. atlantis, Deep Crk, E of Townsend, BROADWATER Co, 15 Jul; W of Flaxville, DANIELS Co, 14 Aug; 20 mi NE of Wolf Point, ROOSEVELT Co, 14 Aug; 4 mi SE of Plentywood, SHERIDAN Co, NE, 4 Jul; nr Shawmut, WHEATLAND Co, 29 Aug (all SJK). S. mormonia, Bluebird Lk, LINCOLN Co, NW, 4 Jul (RLH); St Regis, MINERAL Co, 31 Jul (SJK). B. selene, nr Winston, BROADWATER Co, 15 Jul; 5 mi E of Scoby, DANIELS Co, 4 Jun; Warm Spgs, DEER LODGE Co, 9 Jul; Ryegate, GOLDEN VALLEY Co, 18 Jul; W of Buffalo, JUDITH BASIN Co, 18 Jul; S of Savage, RICHLAND Co, 5 Jun; 20 mi NE of Wolf Point, ROOSEVELT Co, 4 Jun; Jocko Rvr, 2 mi E of Dixon, SANDERS Co, 1 Aug; 2 mi SE of Plentywood, SHERIDAN Co, NE, 4 Jun; Balantine,

YELLOWSTONE Co, 17 Jul (all SJK). *B. bellona*, 4 mi W of Heart Butte, PONDERA Co, 23 May (SJK). *B. epithore*, Discovery Basin Rd at Flint Crk, DEER LODGE Co, 11 Jul (SJK). *C. gorgone*, E of Roundup, MUSSELSHELL Co; S of Mosby, PETROLEUM Co (both 27 Aug SJK). *C. palla*, SW of White Sulphur Spgs, MEAGHER Co, 15 Jul (SJK). *P. tharox* (phenotype uncertain; I will try to have this unraveled for next year's Summary), 16 mi NE of Baker, FALLON Co, 15 Aug; Lavina, GOLDEN VALLEY Co, 27 Aug; S of Winnett, PETROLEUM Co, 27 Aug; river breaks S of Culbertson, ROOSEVELT Co, 5 Jun; 2 mi SE of Plentywood, SHERIDAN Co, NE, 4 Jun; Feeley, SILVER BOW Co, 9 Jul; nr Glasgow, VALLEY Co, 13 Aug; Wibaux, WIBAUX Co, 15 Aug (all SJK). *P. pratensis*, mts E of Feeley, SILVER BOW Co, 10 Jul (SJK). *P. batesii* vs *pratensis*, 4 mi SE of Plentywood, SHERIDAN Co, 4 Jul (SJK); [Ferris, Oliver or Opler needs to examine this potentially exciting material]. *P. mylitta*, S of Savage, RICHLAND Co, EAST, 5 Jun (SJK). *P. pallida*, Polaris, BEAVERHEAD Co, 4 Jul 1941 (HAH/SJK). *E. anicia*, N of Georgetown Lk, DEER LODGE Co, 11 Jul (SJK). *P. satyrus*, 25 mi SW of Lodge Grass, BIG HORN Co, SE, 12 Sep 1971 (JLH); Little Snowy Mts, GOLDEN VALLEY Co, 29 Aug; W of Buffalo, JUDITH BASIN Co, 18 Jul; 21 mi N of White Sulphur Spgs, MEAGHER Co, 2 May; nr Myers, TREASURE Co, 27 Apr; S of Two Dot, WHEATLAND Co, 9 May; SE of Billings, YELLOWSTONE Co, 25 Apr (all SJK). *P. progne*, 25 mi SW of Lodge Grass, BIG HORN Co, SW, 6 Sep 1971, LATE (JLH). *P. faunus*, 20 mi N of Hardin, BIG HORN Co, EAST, 27 Apr; Little Snowy Mts, GOLDEN VALLEY Co, 29 Aug; Trail Crk Rd, S of Livingston, PARK Co, 9 May; S of Two Dot, WHEATLAND Co, 9 May; SE of Billings, YELLOWSTONE Co, 25 Apr, EARLY (all SJK). *P. zephyrus*, Dodge Summit, LINCOLN Co, NW, 9 Jun (RLH); Little Snowy Mts, GOLDEN VALLEY Co, 29 Aug; Bull Mts, S of Roundup, MUSSELSHELL Co, 26 Apr, EARLY; nr Myers, TREASURE Co, EAST, 27 Apr; S of Two Dot, WHEATLAND Co, 9 May (all SJK). *N. antiopa*, BIG HORN, DANIELS, GOLDEN VALLEY, MEAGHER, PARK, PETROLEUM, RICHLAND, ROOSEVELT, ROSEBUD, SHERIDAN, NE and TREASURE Counties, 27 Apr - 28 Aug (all SJK). *N. californica*, Polaris, BEAVERHEAD Co, SW, 1 Jul 1945 (HAH/SJK). *N. milberti*, BROADWATER, JEFFERSON, ROOSEVELT, ROSEBUD, SHERIDAN, NE, TREASURE and WHEATLAND Counties, 27 Apr - 28 Aug (all SJK). *V. atalanta*, BROADWATER, DANIELS, GARFIELD, MEAGHER, MINERAL, MUSSELSHELL, RICHLAND, ROOSEVELT and SHERIDAN, NE, Counties, 4 Jun - 30 Aug (all SJK). *V. cardui*, Terry, PRAIRIE Co, 6 Aug 1972 (JLH); DANIELS, DAWSON, GARFIELD, MCCONE, MEAGHER, PETROLEUM, RICHLAND, ROOSEVELT, SHERIDAN, NE and WIBAUX Counties, 4 Jun - 29 Aug (all SJK). *V. carye annabella*, St Regis, MINERAL Co, 31 Jul; Humbug Mtn, SILVER BOW Co, 10 Jul (both SJK). *B. arthemis*, 2 mi E of Flaxville, DANIELS Co, 5 Jul; nr Bainville, ROOSEVELT Co, 4 Jul; 1 mi S of Antelope, SHERIDAN Co, NE, 4 Jul (all SJK). *B. archippus*, FERGUS, GOLDEN VALLEY, HILL, JEFFERSON, JUDITH BASIN, MEAGHER, MINERAL, SANDERS, a WEST record, SILVER BOW and TREASURE Counties, 9 Jul - 13 Aug (all SJK). *S. eurydice*, 2 mi E of Flaxville, DANIELS Co, 5 Jul; 4 mi SE of Plentywood, SHERIDAN Co, NW, STATE, 4 Jul (both SJK). *C. inornata*, E of Terry, PRAIRIE Co, 5 Jun; S of Savage, RICHLAND Co, 5 Jun; Redstone, SHERIDAN Co, NE, 4 Jun (all SJK). *C. pegala*, FALLON, GRANITE, RICHLAND, SHERIDAN, SILVER BOW, VALLEY and WIBAUX Counties, 4 Jul - 15 Aug (all SJK). This species is now known from all Montana counties except Petroleum Co. *C. meadii*, 13 mi W of Terry, PRAIRIE Co, 27 Jul 1972 (JLH); Wibaux, WIBAUX Co, 15 Aug (SJK). *C. oetus*, FERGUS, HILL, PHILLIPS, ROOSEVELT, SHERIDAN and YELLOWSTONE Counties, 4-18 Jul (all SJK, except that Hill Co record is USNM/PAO). *E. epipsodea*, W of Choteau, TETON Co, 23 May (SJK). *O. uhleri*, 5 mi E of Scoby, DANIELS Co, 4 Jun; W Fk Madison Rvr, nr Lyon, MADISON Co, SW, 8 May; S of Ft Peck Dam, MCCONE Co, 4 Jun; Trail Crk Rd, S of Livingston, PARK Co, 9 May; 4 mi W of Heart Butte, PONDERA Co, 23 May; E of Terry, PRAIRIE Co, 5 Jun; river breaks, S of Culbertson, RICHLAND Co, 5 Jun; 20 mi NE of Wolf Point, ROOSEVELT Co, 4 Jun; Redstone, SHERIDAN Co, NE, 4 Jun; S of Two Dot, WHEATLAND Co, 9 May (all SJK). *O. alberta*, 4 mi W of Heart Butte, PONDERA Co, 23 May (SJK). *O. jutta*, bog E of Feeley, SILVER BOW Co, 10 Jul (SJK). *D. plexippus*, Elkhorn Hot Spgs, BEAVERHEAD Co, SW, 1 Aug 1940 (HAH/SJK); Terry, PRAIRIE Co, 6 Aug 1972 (JLH); BIG HORN, BLAINE, BROADWATER, DAWSON, FALLON, FERGUS, GARFIELD, GOLDEN VALLEY, HILL, MCCONE, MEAGHER, MINERAL, PETROLEUM, RICHLAND, ROOSEVELT, NE, ROSEBUD, SILVER BOW, STILLWATER, VALLEY, WHEATLAND and WIBAUX Counties, 6 Jul - 29 Aug (all SJK).

MOTHS: No data were received.

WYOMING. Contributors: CDF, RLH, JLH, PAO, JAP, RCR, JAS, RES. Spring and early summer were good, but drought in August brought the season to an early end.

BUTTERFLIES: Received were 177 items, including 140 county records, 2 state records, 16 counties and 107 species. The average number of species per county is now 81.67. *E. icelus*, CONVERSE Co, data pending (RLH). *E. persius*, CONVERSE Co (RLH); Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, 1 Jun (RES). *P. communis*, Frontier, LINCOLN Co; Marbleton, SUBLETTE Co, both 1 Sep (RES). *P. catullus*, 3 mi W of Pine Bluffs, LARAMIE Co, SE, 8 Sep (PAO). *P. pirus*, Cheyenne, LARAMIE Co, NE, 22 Jun (PAO). *H. juba*, nr Cook Lk, CROOK Co, NE, 25 May (RCR, det RES); 5 mi E of Lonetree, UINTEA Co, SW, 31 Aug (PAO, RES). *H. comma*, Torrington, GOSHEN Co, 24 Aug (PAO). *H. pahaska*, Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, 1 Jun (RCR, det RES). *H. leonardus pawnee*, 5 mi N of Ft Laramie, GOSHEN Co, 24 Aug (PAO). *P. peckius*, Torrington, GOSHEN Co, SE, 24 Aug (PAO). *P. sabuleti*, Green River (town), SWEETWATER Co, SW, 2d STATE, 31 Aug (PAO, RES). *P. draco*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO). *P. themistocles*, CONVERSE Co, data pending (RLH); Happy Jack Rd, 21 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO). *P. sonora*, CONVERSE Co (RLH); Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, NE, 13 Jul (PAO). *O. sylvanoides*, Henry Fk, 2 mi N of Manila, SWEETWATER Co, SW, 31 Aug (RES); Lone Star Geyser area, YELLOWSTONE NP, NW, 16 Aug 1953 (JAP). *O. snowi*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, STATE, NORTH, 13 Jul (PAO). *P. taxiles*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO). *A. vialis*, Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, SE, 1 Jun (RES). *P. phoebus*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO). *P. bairdii* (b); 3.5 mi W of Cheyenne, LARAMIE Co, STATE, NORTH, 13 Jul (PAO); (y) N Horseshoe Crk, CONVERSE Co, NE, 23 Jul 1966 (RLH). *P. zelicson* (y), JOHNSON Co (USNM/PAO). *P. indra*, Pine Ridge Breaks, 13 mi N of Van Tassell, Niobrara Co, 1 Jun (Mark Rosche/RCR). *P. rutulus*, JOHNSON Co (USNM/PAO); Happy Jack Rd, 25 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO). *P. multicaudatus*, Cheyenne, LARAMIE Co, SE, 15 Jun (PAO). *P. eurymedon*, Warren Peaks, CROOK Co, NE, 25 May (RCR). *N. menapia*, Snake Rvr, 10 mi E of Alpine, LINCOLN Co, WEST, 13 Aug 1953 (JAP). *P. napi*, FREMONT Co (USNM/PAO). *P. rapae*, Frontier, LINCOLN Co, 1 Sep (RES); Marbleton, SUBLETTE Co, 1 Sep (PAO). *P. occidentalis*, Torrington, GOSHEN Co, 24 Aug; 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (both PAO). *P. beckerii*, 1.5 mi NNE of SW corner of LINCOLN Co, SW, 29 Jun (JLH). *P. sisymbrii*, 4 mi N of Manville, NIOBRARA Co, EAST, 1 May (RCR); YELLOWSTONE NP, NW (USNM/PAO). *E. ausonides*, 4 mi N of Manville, NIOBRARA Co, 1 May (RCR). *C. eurytheme*, BIG HORN Co (USNM/PAO); Frontier, LINCOLN Co, 1 Sep (RES); this species is now known from all but Sublette Co in WY. *C. alexandra*, 13 mi N of Van Tassell, Niobrara Co, 1 Jun (RES). *L. hyllus*, Torrington, GOSHEN Co, EAST, 24 Aug (PAO). *L. editha*, Whitney Cn 7000', LOW, UINTEA Co, SW, 6 Jul (JLH). *L. nivalis*, 14 mi N of Evanston, UINTEA Co, SW, 6 Jul (JLH). *L. rubidus*, JOHNSON Co (USNM/PAO); 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (PAO). *L. heteronea*, Happy Jack Rd, 21 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun, EARLY (PAO). *L. dorcas castro*, 8 mi S of Robertson, 8400', UINTEA Co, SW, 31 Aug (RES). *L. helloides*, Douglas 4900', CONVERSE Co (RLH); 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (PAO); 3 mi W of New Fk Lks 7800', SUBLETTE Co, 6 Jul 1982 (JLH); 1 mi E of Lonetree, UINTEA Co, SW, 31 Aug (RES). *H. titus*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO). *S. fuliginosum*, 14 mi N of Evanston, UINTEA Co, SW, 6 Jul (JLH). *S. behrii*, LaBonte Cn, CONVERSE Co, NE (RLH); Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO). *S. californica*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO); 10 mi N of Evanston, UINTEA Co, SW, 6 Jul (JLH). *C. sheridani*, 13 mi SW of Lander, FREMONT Co, 20 Jun 1982; LINCOLN and UINTEA, SW, Counties, larvae taken in the field in 1985 (all JLH). *C. affinis*, 1.5

mi NNE of SW corner of LINCOLN Co, 9 Jun (JLH). *M. siva*, same as previous species, LINCOLN Co; 1.9 mi ESE of NW corner of UINTA Co, SW, 15 Jun (both JLH). *I. augustus*, Warren Peaks, CROOK Co, NE, 25 May (RCR); 13 mi SW of Lander, FREMONT Co, 20 Jun 1982 (JLH). *I. polios*, Ayre's Natural Bridge, CONVERSE Co (RLH); Warren Peaks, CROOK Co, NE, 25 May (RCR). *I. eryphon*, 15 mi SW of Lander, FREMONT Co, 6 Jul 1982 (JLH); Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, 1 Jun (PAO,RCR,RES). *I. mossi*, 4 mi N of Manville, NIOBRARA Co, EAST, 1 May (RCR). *E. enoptes*, 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (PAO); 12 mi N of Van Tassell, NIOBRARA Co, EAST, 1 Jun (PAO); SHERIDAN Co, NE (Carpenter 1877/PAO). *G. piasus*, 13 mi N of Van Tassell, Niobrara Co, 1 Jun (RES). *G. lygdamus*, same data, NIOBRARA Co (PAO,RCR,RES). *L. idas*, SHERIDAN Co, EAST (USNM/PAO, questionable data). *L. melissa*, 5 mi S of Van Tassell, GOSHEN Co, 1 Jun (PAO,RES); this becomes the third species to be known from all 24 WY counties. *A. glandon*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO). *P. saepiolus*, Happy Jack Rd, 25 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO); fresh specimens, Frontier, Lincoln Co, 1 Sep, LATE (RES). *I. icarioides*, 5 mi S of Van Tassell, GOSHEN Co, 1 Jun (PAO,RES); 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (PAO). *I. acmon*, 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (PAO); 12 mi N of Van Tassell, NIOBRARA Co, EAST, 1 Jun (RES); 10 mi N of Evanston, UINTA Co, SW, 6 Jul (JLH). *I. shasta*, 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (PAO); 10 mi N of Evanston, UINTA Co, SW, 6 Jul (JLH). *A. mormo*, Happy Jack Rd, 25 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul, associated with *Eriogonum umbellatum* (PAO); 3 mi N of Manila, SWEETWATER Co, SW, 31 Aug (PAO). *E. claudia*, Ft Laramie, GOSHEN Co, 24 Aug (PAO). *S. atlantis*, silvered and not, 24 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO). *S. zerene*, 4 mi SW of Ft Laramie, GOSHEN Co, EAST, 24 Aug (PAO). *B. selene*, BIG HORN Co (USNM/PAO); nr Cook Lk, CROOK Co, NE, 25 May (RCR); 25 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO). *B. frigga*, YELLOWSTONE NP, NW (USNM/PAO). *E. anicia*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO); Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, 1 Jun (RES). *P. arachne*, 24 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO); Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, NE, 1 Jun (RES). *C. acastus*, Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, EAST, 1 Jun (RCR); Pole Mtn, ALBANY Co, SE, 11 Jun 1974 (CDF/RLH). *C. palla*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO). *C. gorgone*, Torrington, GOSHEN Co, 24 Aug (PAO). *C. nycteis*, LaBonte Cn, CONVERSE Co (RLH). *P. tharos* (A), 13 mi N of Van Tassell, NIOBRARA Co, 1 Jun (PAO,RES). *P. pascoensis* (B), Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO). *P. mylitta*, Viva Naughton Rsvr, LINCOLN Co, SW, 1 Sep (RES). *P. pallida barnesi*, Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, SE, 1 Jun (RES). *P. pratensis pratensis*, Frontier, LINCOLN Co, SOUTH, 1 Sep (RES); *P. p. camillus*, 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (PAO); the Red Desert separates these two subspecies in WY, the former to W and N, the latter to E and S. *P. zephyrus*, Warren Peaks, CROOK Co, NE, 25 May (RCR). *P. progne*, SHERIDAN Co (Carpenter, 1877/PAO). *N. antiopa*, Lusk, NIOBRARA Co, 1 May (RCR); Cottonwood Crk, 12 mi N of Marbleton, SUBLETTE Co, 1 Sep (RES). *N. milberti*, Bear Lodge Mts, CROOK Co, NE, 25 May (RCR); 8 mi S of Cheyenne, LARAMIE Co, SE, 15 Jun (PAO). *V. atalanta*, 27 mi N of Evanston, LINCOLN Co, 6 Jul; 14 mi N of Evanston, UINTA Co, SW, 6 Jul (both JLH). *V. cardui*, 12 mi S of La Barge, LINCOLN Co, 1 Sep (PAO); this species is now known from all but Washakie and Weston counties. *V. virginensis*, 27 mi N of Evanston, LINCOLN Co; 14 mi N of Evanston, UINTA Co, SW (both 6 Jul, JLH). *B. archippus*, Ft Laramie, GOSHEN Co, 24 Aug (PAO); Cheyenne, LARAMIE Co, SE, 13 Jul (PAO). *C. ochracea*, 12 mi S of Van Tassell, GOSHEN Co, 1 Jun (RES). *C. oetus*, 24 mi W of Cheyenne, LARAMIE Co, SE, 13 Jul (PAO). *E. epipsodea*, Happy Jack Rd, 24 mi W of Cheyenne, LARAMIE Co, SE, 22 Jun (PAO). *N. ridingsii*, SHERIDAN Co, NORTH (Carpenter 1877/PAO). *O. uhleri*, Pine Ridge Breaks, 13 mi N of Van Tassell, NIOBRARA Co, SE, 1 Jun (RES); YELLOWSTONE NP, NW/SW (USNM/PAO). *D. plexippus*, 2 larvae on milkweed, Ft Steele, CARBON Co, 2 Sep (PAO,RES); 5 mi N of Ft Laramie, GOSHEN Co, 24 Aug (PAO); Frontier, LINCOLN Co, 1 Sep (RES); SHERIDAN Co (Carpenter 1877/PAO); 8 mi N of Evanston, UINTA Co, SW, 6 Jul (JLH).

MOTHS: *Catocala aholibah*, at bait, DTNM, Crook Co, 24 Aug. *Hemileuca here hera*, milepost 65, Hwy 30, Lincoln Co, 26 Jul (both CDF); no other records were received.

UTAH. Contributors: CFG, JLH, JMJ, PAO, F/JP, P/SS, SWS. The season was much drier than the previous several wet years, so most species were on the wing a week or two earlier. The caveat in the introduction to the Zone 4 report applies especially to Utah, where I know there are several hundred county records unavailable to me; the following "county records" are therefore putative, and in many instances may be confirmations. The Anasazi kids probably recorded them over 3000 years ago, but I don't have their data either!

BUTTERFLIES: I received 228 data points, the best since the 353 in 1982. There were 224 county records, 3 State records, 95 species and 27 counties (all but Iron and Salt Lake). My charts now show an average of 97.21 species per county, up from 95.76 for 1984. *I. mexicana nevada*, 1.4 mi N of corner of RiUT/LiWY/UiWY, RICH Co, NE, 9 Jun (JLH, det RES). *E. brizo burgessii*, 9 mi SE of Hanksville, WAYNE Co, 27 Apr (JLH, det RES). *E. afranius*, Cedar Mtn Rd, 29 mi S of Price, EMERY Co, 4 Jul (JLH, det RES). *H. alpheus*, US Hwy 40, 0.6 mi W of UT Hwy 88, UINTAH Co, NE, 12 May (JLH, det RES). *M. coloradensis*, 2 mi E of Minersville, BEAVER Co, emg 10 May 1983; 5.1 mi E of Kingston, PIUTE Co, emg 26 May 1984 (both JLH). *P. clodius*, nr Richfield, nr US Hwy 89, SEVIER Co, SOUTH, 25 May 1930 (J A Rowe/CFG: Utahensis 5(1):1, 1985). *P. bairdii*, black form, 18 mi NNW of Beaver, BEAVER Co, 18 Aug 1984 (JLH); 31 mi S of Price, summit Cedar Mtn, EMERY Co, 22 Jun (SWS); peak nr Hop Crk, E Tintic Mts, JUAB Co, 18 May (JMJ). *P. bairdii*, yellow form, summit of Cedar Mtn, EMERY Co, 20 May 1983 (JLH); hilltop 1.7 mi ESE of Croydon, MORGAN and SUMMIT Co's, 2 Jun 1984 (JLH); 1.4 mi SW of Rex Peak, RICH Co, NORTH, 30 May 1984; 5.1 mi N of Fairview, SANPETE Co, 3 Aug 1984; 2.7 mi N of Torrey, WAYNE Co, 19 May 1984 (all JLH); WEBER Co (USNM/PAO). *P. zelicson* (y), 1.4 mi SW of Rex Peak, RICH Co, 30 May 1984 (JLH); Old Woman Plateau, SEVIER Co, 3 Jul 1984 (JMJ). *P. indra indra*, 0.9 mi S of US Hwy 89 at Bear Lk Summit, RICH Co, 1 Jul 1984, LATE (JLH). *E. i. minori*, 1.8 mi S of San Rafael bridge, 38 mi S of Price, EMERY Co, 5 May; 7.5 mi SSE of jct of Hwys I-70/UT 10, SEVIER Co, WEST, emg 2 Jul (both JLH). *P. rutulus*, Rilda Cn, EMERY Co, 1 Jul 1983 (JMJ). *N. menapia*, 1.9 mi NW of Temple Flat, CACHE Co, NORTH, 2 Sep 1984; Castle Crk Rd, 16 mi E of Moab, GRAND Co, 25 Jul 1984; 3 mi SW of Meadowville, RICH Co, NORTH, 2 Sep 1984; Grover, WAYNE Co, 16 Jul 1984 (all JLH); 10 mi NW of Huntington, EMERY Co, 27 Jul (SWS); JUAB Co, WEST (USNM/PAO). *P. rapae*, Price, CARBON Co, 4 Jul; Duchesne, DUCHESNE Co, 30 Jun; Panguitch, GARFIELD Co, 10 Aug; Gunnison, SANPETE Co, 12 Aug (all JLH); Portage, BOX ELDER Co, NW, 16 Jul (JMJ). *P. napi*, 3 mi NW of Hanna, DUCHESNE Co, 22 Aug 1976 (JLH). *P. protodice*, Price, CARBON Co, 4 Jul; US Hwy 40, 1.5 mi E of jct with UT Hwy 208, DUCHESNE Co, 30 Jun (both JLH); I now show this species from all UT counties except Morgan and Weber. *P. occidentalis*, Ogden, WEBER Co (USNM/PAO). *P. beckerii*, 6.8 mi N of Neola, DUCHESNE Co, 30 Jun; 4.1 mi N of San Rafael bridge, EMERY Co, 4 Jul (both JLH). *P. sisymbrii*, 1.8 mi SSE of Laketown, RICH Co, 8 Jun (SWS). *A. sara*, Rilda Cn, EMERY Co, 22 Jun 1984 (JMJ); 1.5 mi NE of jct of UT Hwys 30/145, RICH Co, 8 Jun (SWS). *C. philodice*, Price, CARBON Co, 4 Jul (JLH); Chepeta Lk, DUCHESNE Co, 20 Jul 1984; E Deer Crk Rsvr, WASATCH Co, 18 Jun 1982 (both JMJ); although I have been told on good authority that *philodice* is known from all UT counties, I lack data from Davis and Weber Co's; when I receive these, and a record from Mineral Co, Colorado, it will become the first bf species to be known from every county in Zone 4! *Z. cesonia*, Stockton, TOOELE Co, NW, 1901 (T.U.Spalding/USNM/PAO). *P. sennae*, American Fk Cn, 0.7 mi N of Tibble Fk Rsvr, UTAH Co, NORTH, 13 Jun, EARLY (SWS). *E. nicippe*, So Willow Cn, TOOELE Co, NW, 28 Jun (JMJ). *E. mexicana*, nr Castle Cliff, W slope Beaver Dam Mts, WASHINGTON Co, STATE, NORTH, 16 Apr (P/SS). *N. iole*, Leeds, Washington Co, 18 Nov 1983, LATE (P/SS). *T. arota*, Mill Crk, 15 mi ESE of Moab, GRAND Co, 31 Jul 1984 (JLH). *L. cupreus*, 13 mi ESE of Woodruff, RICH Co, 17 Jun 1984 (JLH). *L. editha*, Skyline Dr, 2.7 mi SSE of

Bountiful Peak, DAVIS and MORGAN Counties, 14 Jul (SWS); S Fk Provo Cn, UTAH Co, SOUTH, Jul 1984 (Clifford Miles/JMJ); N Fk Ogden Rvr, 0.7 mi above Camp Utaba, WEBER Co, 4 Jul 1984, EARLY (JLH). *L. rubidus*, Bountiful Peak, DAVIS Co, 14 Jul (SWS). *L. heteronea*, Castle Crk Rd, 16 mi E of Moab, GRAND Co, 25 Jul 1984 (JLH); Skyline Dr, 2.7 mi SSE of Bountiful Peak, DAVIS and MORGAN Counties, 14 Jul (SWS). *L. nivalis*, Skyline Dr, 2.7 mi SSE of Bountiful Peak, DAVIS and MORGAN Counties, 14 Jul (SWS). *L. helloides*, JUAB and TOOELE counties (USNM/PAO). *H. crysalus*, Box Elder Crk, 1.2 mi S of Mantua, BOX ELDER Co, NW, 25 Aug 1983; 2.5 mi N of Helper, CARBON Co, 28 Jul; 9.1 mi S of Avon, CACHE Co, 27 Aug 1983; 1.4 mi NE of Farmington, DAVIS Co, 22 Jul 1984; 0.9 mi SE of Red Pine Dam, DUCHESNE Co, 3 Sep 1983; 5.8 mi N of Joes Valley Dam, EMERY Co, 3 Aug 1984; Hwy I-15 at Scipio Pass, MILLARD Co, 12 Aug; 1 mi NW of East Cn Rsvr Dam, MORGAN Co, 20 Aug 1983; 3.6 mi SW of Marysville, PIUTE Co, 10 Aug; 1200 ft SE of corner of Ri/Su/Mo Co's, RICH Co, 28 Aug 1983; 7.5 mi NE of Coalville, SUMMIT Co, 27 Aug 1983; 4.3 mi NW of Causey Dam, WEBER Co, 27 Aug 1983; 15.5 mi SW of Hanksville, WAYNE Co, 1 Aug 1984 (all JLH); Pine Creek Cg, Wasatch Mtn State Park, 6000', WASATCH Co, 23 Jul 1980 (F/JP); now known to me from all but Daggett County in UT. *S. behrii*, 6.9 mi N of Neola, DUCHESNE Co, 16 Jun; Cedar Mtn, 31 mi S of Price, EMERY Co, 22 Jun; 5.4 mi W of Porterville, 0.1 mi N of Deep Crk, MORGAN Co, 21 Aug 1983 (all JLH). *S. fuliginosum*, Price Cn Recr Area, CARBON Co, SOUTH, 13 Jul (JMJ); 2 mi NE of Bountiful Peak, DAVIS and MORGAN Counties, 21 Aug 1983 (JLH); 4.5 mi NE of Woodruff, RICH Co, NORTH, 29 Jun (JLH). *S. titus*, Nebo Loop Rd, 8000', JUAB Co, 3 Aug 1984 (Allen Hoffman/JMJ). *S. saepium*, 2 mi NE of Bountiful Peak, DAVIS and MORGAN Counties, 21 Aug 1983 (JLH). *S. calanus*, Castle Crk Rd, 16 mi E of Moab, GRAND Co, NORTH, 25 Jul 1984 (JLH). *S. californica*, 2 mi NE of Bountiful Peak, DAVIS and MORGAN Co's, 21 Aug 1983; 0.4 mi NE of Rex Peak, RICH Co, 7 Jul (all JLH). *S. sylvinus*, 2.5 mi N of Helper, CARBON Co, 28 Jul; 3.8 mi S of Manila, DAGGETT Co, NE, 12 Aug 1984; 1.4 mi NE of Farmington, DAVIS Co, 4 Jul 1984, EARLY; Castle Crk Rd, 15 mi E of Moab, GRAND Co, 31 Jul 1984; 1.9 mi NE of Huntington, EMERY Co, 27 Jul; 0.5 mi E of Marysville, PIUTE Co, 10 Aug; 1.7 mi NE of Fairview, SANPETE Co, 3 Aug 1984; 9.8 mi E of La Sal, SAN JUAN Co, SE, 31 Jul 1984; UT Hwy 39 in NW Ogden, WEBER Co, 5 Aug 1984; 1.2 mi W of Keetley, WASATCH Co, 5 Aug 1984; 3.5 mi SE of Torrey, WAYNE Co, 16 Jul 1984 (all JLH). *I. fotis*, 2 mi E of Minersville, BEAVER Co, 25 Apr 1983; 1.4 mi NE of summit of Cedar Mtn, EMERY Co, 29 May 1983; US Hwy 160, 11 mi NW of Moab, GRAND Co, 24 Apr 1983; 1 mi W of Wales, SANPETE Co, 8 May 1983; The Harnett, 14 mi NW of Caineville, WAYNE Co, 30 Apr 1983 (all JLH). *I. augustus*, 2.6 mi NNW of Emigrant Pass, BOX ELDER Co, NW, 27 May 1984; Cedar Spgs Cg, 2 mi W of Flaming Gorge Dam, DAGGETT Co, NE, 20 May 1984; 6.8 mi N of Neola, DUCHESNE Co, 20 May 1984; Upper Strawberry Ridge, 12.5 mi W of Woodruff, RICH Co, 17 Jun 1984 (all JLH). *I. polios*, Whiterocks Cg, 10 mi N of Whiterocks, 7400', UINTAH Co, STATE, 26 May 1984 (Alan R. Myrup/JLH); 0.8 mi SE of U-bar Rch, 17 mi NW of Neola, 7700', DUCHESNE Co, WEST, 18 May (SWS/JLH); Deep Crk Cg, 9.1 mi S of Manila, 7700', DAGGETT Co, NORTH, 27 May (JLH). *I. eryphon*, 6.8 mi N of Neola, DUCHESNE Co, 20 May 1984 (JLH); Rilda Cn, EMERY Co, 1 Jul 1983; N Walker Cn, MILLARD Co, 5 Jul 1983 (both JMJ); 0.1 mi E of county line, Bear Lake Summit, RICH Co, 1 Jul 1984; 2.9 mi E of Manti, SANPETE Co, 19 Jun 1983 (both JLH). *M. siva*, 6.8 mi N of Neola, DUCHESNE Co, 20 May 1984; top Antelope Isd, DAVIS Co, 15 Jun 1983; Little Cedar Mtn, 11 mi E of Castledale, EMERY Co, 20 May 1983; 6.8 mi NE of Croydon, MORGAN Co, 20 Jun 1983; 5.5 mi E of Kingston, PIUTE Co, 18 Jun 1983; 1.1 mi NNE of Fountain Green, SANPETE Co, 17 Jun 1983; 3.4 mi N of Coalville, SUMMIT Co, 20 Jun 1983; 1.6 mi W of Currant Crk, 0.3 mi N of US Hwy 40, WASATCH Co, 11 Jun 1983; 1.9 mi S of Grover, WAYNE Co, 18 Jun 1983 (all JLH); now known by RES from all UT counties except Weber Co. *M. spinetorum*, 8.2 mi S of Manila, DAGGETT Co, NE, 27 May; 6.1 mi E of jct of US Hwy 40/UT Hwy 208, DUCHESNE Co, 26 May 1984; Cedar Mtn Rd, 1.2 mi S of Staker Spg turnout, EMERY Co, 17 May 1984; 1.8 mi NE of jct of UT Hwy 63/Lone Cedar Pass Rd, MILLARD Co, 22 May 1984; 5.2 mi SW of Greenwich, PIUTE Co, 17 Jun 1983; 5 mi NE of Fayette, SANPETE Co, 25 Jun 1983; 1.4 mi SSW of Teasdale, WAYNE Co, 18 Jun 1983 (all JLH). *C. affinis*, 4.4 mi SSE of Manila, DAGGETT Co, NE, 26 May 1984, EARLY; 8.1 mi N of Neola, DUCHESNE Co, 15 Jun 1984; 0.1 mi W of corner of RIUT/LiWY/UiWY, RICH Co, 17 Jun 1984 (all JLH). *C. apama*, 7.4 mi S of Torrey, WAYNE Co, 16 Jul 1984, LATE (JLH). *C. sheridani*, 0.1 mi W of E end of Dowd Mtn, DAGGETT Co, NE, 26 May 1984; 6.8 mi N of Neola, DUCHESNE Co, 20 May 1984; 1.7 mi S of Rex Peak, RICH Co, 30 May 1984 (all JLH). *C. paradoxa* (manuscript name), Poison Spg Cn, 20 mi SE of Hanksville, GARFIELD Co, 27 Apr; Long Cn, 7.5 mi WSW of Moab, Grand Co, 12 Apr, EARLY; Fifty Mile Crk, 49 mi SE of Escalante, KANE Co, SW, 24 Apr; 1.2 mi SE of Granite Ranch, 14 mi S of Hanksville, WAYNE Co, 28 Apr (all JLH). *A. halesus*, 1.7 mi NE of Fairview, SANPETE Co, 3 Aug 1984 (JLH). *S. melinus*, summit Cedar Mtn, EMERY Co, 22 Jun (JLH); N Walker Cn, MILLARD Co, 5 Jul 1983 (JMJ). *H. isola*, Castle Crk Rd, 16 mi E of Moab, GRAND Co, NE, 25 Jul 1984; 2.5 mi W of Tierra, TOOELE Co, NW, 31 Aug (both JLH). *C. argiolus* (ladon), 6.8 mi N of Neola, DUCHESNE Co, 20 May 1984; Sunglow Cg, nr Bicknell, WAYNE Co, 14 May 1984 (both JLH); Hop Crk, E of Tintic Mts, JUAB Co, 18 May (Clifford Miles/JMJ); Warner Hollow, 1.2 mi SSE of Rex Peak, RICH Co, 19 May (SWS). *P. saepiolus*, Rilda Cn, EMERY Co, 1 Jul 1983; N Walker Cn, MILLARD Co, 5 Jul 1983 (both JMJ). *I. icarioides*, 6.9 mi N of Neola, DUCHESNE Co, 18 May (SWS); now known to RES from all UT Co's except Emery and Morgan. *I. acmon*, 6.9 mi N of Neola, DUCHESNE Co, emg 4 Jul; 0.4 mi NE of Rex Peak, RICH Co, 7 Jul; 9 mi SE of Hanksville, WAYNE Co, 27 Apr (all JLH); Eureka, JUAB Co; Stockton, TOOELE Co (both USNM/PAO). *I. shasta*, Bountiful Peak, 9200', DAVIS Co, 14 Jul (SWS). *G. lygdamus*, Rilda Cn, EMERY Co, 22 Jun 1984 (JMJ). *G. piasus*, Rilda Cn, EMERY Co, 1 Jul 1982; N Walker Cn, MILLARD Co, 5 Jul 1983 (both JMJ). *E. spaldingi*, Wray Mesa Rd, 8.3 mi E of La Sal, SAN JUAN Co, SE, 31 Jul 1984; N Slope Rd, 7.4 mi S of Torrey, WAYNE Co, 16 Jul 1984 (both JLH). *E. rita* (?*emmeli*), Old Woman Plateau, SEVIER Co, 8 Aug 1980 (JMJ). *E. battoides*, base of Bob Hill Knoll, EMERY Co, 11 Aug 1984 (Clifford Miles/JMJ). *E. mojave*, E side of Paria Rvr below Brigham Plains, KANE Co, STATE, ZONE, EAST, 15 May 1982 (P/SS); nr Welcome Spgs, W Slope of Beaver Dam Mts, WASHINGTON Co, 13 Apr (Clifford Miles and Bob Mower/PJS) and 27 Apr (P/SS). *A. mormo*, 0.1 mi W of corner of RIUT/LiWY/UiWY, RICH Co, larvae 8 Jun, adults 12 Jul (JLH); Monroe, SEVIER Co, 6 Aug 1981 (WHH/USNM/PAO); 2 mi N of St George, Washington Co, 16 Apr 1984, EARLY (P/SS). *L. bachmani*, 0.5 mi E of Beaver Dam Wash, 2900', Washington Co, 27 Oct 1980 (JLH - this is the first state record that I tried to find last year). *E. claudia*, summit Cedar Mtn, 31 mi S of Price, EMERY Co, 22 Jun (SWS); 7.5 mi E of La Sal, SAN JUAN Co, SE, 31 Jul 1984; 10 mi S of Hanksville, WAYNE Co, 26 Aug 1984 (both JLH). *S. hydaspe*, Bountiful Peak, DAVIS Co, 9 Jul (JMJ). *S. atlantis wasatchia*, N Walker Cn, MILLARD Co, 5 Jul 1983 (JMJ). *B. selene*, Park City, SUMMIT Co (USNM/PAO). *P. arachne*, 1.5 mi ENE of Scipio Dam, MILLARD Co, 25 Jun 1983 (JLH). *C. acastus*, 11 mi SE of Torrey, WAYNE Co, 15 Jul 1984 (JLH); Antelope Springs, MILLARD Co, 28 May 1984 (JMJ). *C. palla*, 1.7 mi NE of Bountiful Peak, DAVIS Co, 17 Jul 1983 (JLH). *T. leanira alma*, Antelope Spgs, MILLARD Co, 28 May 1984 (Clifford Miles/JMJ). *P. tharos* (probably *pascoensis*), 13 mi NW of Huntington, EMERY Co, 27 Jul (SWS). *P. mylitta*, Rilda Cn, EMERY Co, SE, 1 Jul 1983 (JMJ). *P. pallida*, locality pending, JUAB Co, 15 Jun 1983 (JMJ); nr top of Antelope Island, DAVIS Co, 15 Jun 1983; 6.8 mi NE of Croydon, MORGAN Co, 20 Jun 1983 (both JLH). *P. satyrus*, confluence of Green Rvr/Goslin Crk, DAGGETT Co, NE, 20 May 1984; 2 mi S of Grover, WAYNE Co, 16 Sep 1984 (both JLH); Murdock Mtn, DUCHESNE Co, 8 Aug 1983 (JMJ). *P. zephyrus*, 1.7 mi SW of Clear Crk Cg, Raft Rvr Mts, BOX ELDER Co, NW, 9 Sep 1984; 10 mi NW of Huntington, EMERY Co, 27 Jul; S Fk Provo Rvr, 1.8 mi E of Mill Hollow, WASATCH Co, 3 Sep 1984 (all JLH). *P. faunus hylas*, 1.7 mi SW of Clear Crk Cg, Raft Rvr Mts, BOX ELDER Co, NW, 9 Sep 1984; 1.9 mi NW of Temple Flat, CACHE Co, 2 Sep 1984; 9 mi N of Whiterocks, UINTAH Co, SE, 8 May; 6 mi NW of Midway, WASATCH Co, 3 Sep 1984 (all JLH); 17 mi NW of Neola, DUCHESNE Co, 18 May (SWS). *N. antiopa* and *N. californica*, Murdock Mtn, DUCHESNE Co, 8 Aug 1983 (JMJ). *V. virginensis*, City Crk Cg, 5.3 mi W of Junction, PIUTE Co, 10 Aug (JLH); Benjamin Farm, UTAH Co, Jul 1937 (JMJ). *V. carve annabella*, Eureka, JUAB Co, 14 Aug; Payson,

UTAH Co, 9 Nov, LATE (both JMJ). A. jatrophae, Orem, UTAH Co, STATE, ZONE, NORTH, 30 Sep 1984 (Tom Carter/JLH). B. a. archippus, 3.6 mi SW of Marysvale, PIUTE Co, SW, 10 Aug (JLH). B. weidemeyerii, 2.5 mi N of Helper, CARBON Co, 28 Jul (SWS); N Slope Rd, 7.4 mi S of Torrey, WAYNE Co, 16 Jul 1984 (JLH). C. ochracea ?brenda, Rilda Cn, EMERY Co, 1 Jul 1983 (JMJ). C. pegala, WASHINGTON Co (USNM/PAO); I consider this dubious; 12.5 mi S of Hanksville, WAYNE Co, 1 Aug 1984 (JLH). C. meadii, N Slope Rd, 7.3 mi SSW of Torrey, WAYNE Co, 16 Jul 1984 (JLH). C. sthenele, summit Cedar Mtn, 31 mi S of Price, EMERY Co, 22 Jun (SWS). C. oetus, Bountiful Peak, 9200', DAVIS Co, 14 Jul; 10 mi NW of Huntington, 6800', EMERY Co, 27 Jul (both SWS); N Walker Cn, MILLARD Co, 5 Jul 1983 (JMJ). N. ridingsii, Head of Rye Grass, 2 mi SE of Sears Cn, 7400', DAGGETT Co, NE, 11 Aug 1984 (JLH). D. plexippus, Johnson Pass 6500', TOOELE Co, 20 Jul (SWS).

MOTHS: No data were received.

COLORADO. Contributors: DLB, FMB, JMB, CVC, DAC, TSD, BAD, SLE, CDF, MSF, JLH, WHH, LCK, RLK, BHL, RHL, PAO, F/JP, JAS, CPS, RES, SS. Our season was just the opposite of that in Montana. Spring was relatively dry, so several early records were obtained; July and August were wet, with much more than normal rain, so the fall season was about average.

BUTTERFLIES: There were 208 items received, including 145 county records, 2 state records, 119 species and 42 counties. The average number of species per county currently stands at 97.87, up from 95.63 a year earlier; we hope to reach 99 avg sp/co in 1986, and 100 in 1987. Cheyenne Co has the fewest number of species with 26. E. clarus, Messex State Wildlife Area (SWA), WASHINGTON Co, 29 Jun (RES). A. cellus, Stoner, MONTEZUMA Co, STATE, NORTH, 3 Jul 1971 (H. Flaschka, AMNH, cited by JMB Smithsonian Contributions to Zoology 405, 1984). This record is dubious; I wrote to Dr. Flaschka, and he cannot remember ever collecting this species in Colorado. T. mexicana, Luders Crk Cg, SAGUACHE Co, 24 Jun 1971 (JAS). E. telemachus, Phantom Cn, TELLER Co, 27 Jul 1984, LATE (CVC). E. horatius, Maze Caves, TELLER Co, 8 Jul (CVC). E. p. pacuvius and E. martialis, common on summit of Mt Zion, Jefferson Co, 4 May (RES). E. p. lilius, No Name Crk, Glenwood Cn, GARFIELD Co (confirmatory), 13 Jun (RES). E. funeralis, Queens Lk SWA, KIOWA Co, 18 Jul (PAO). P. centaureae, W of Cameron Pass, Jackson Co, 30 Jun, EARLY (RES). P. communis, 1 mi N of Hebron, JACKSON Co, 30 Jun (PAO). P. catullus, Kit Carson, CHEYENNE Co, 28 Jul; Hwy 385, 2.4 mi S of Hwy I-76, SEDGWICK Co, NE, 26 Aug (both RES). P. pirus, No Name Crk, Glenwood Cn, Garfield Co, 12 Jun, EARLY for W Slope (RES). O. garita, 1 mi N of Hebron, JACKSON Co, 30 Jun (RES). T. lineola, 25.7 mi S of Hayden, E Fk Wms Fk Rvr, 7600', RIO BLANCO Co, STATE, ZONE, WEST, HIGH, 3 Aug (PAO, RES). This thriving colony is an astonishing range extension, and probably represents a separate introduction rather than a westward extension from Iowa. One can only speculate how long it has been there, a few years or perhaps over a century! It will be interesting to see whether it spreads, remains the same, or disappears. H. phyleus, Ordway, CROWLEY Co, 2d STATE; Limon, LINCOLN Co, 3d STATE, both 7 Sep (RES). S. morrisoni, Bridge Crk PG, Golden Gate St Park, Jefferson Co, 27 May (RES). H. uncas, Ordway Rsvr, CROWLEY Co, 27 Jul; Hwy 385, 2.4 mi S of Hwy I-76, SEDGWICK Co, NE, 26 Aug (both RES). H. comma ochracea, Cheesman Lk, Jefferson Co, 9 Sep, LATE (LCK, RES). H. ottoe, Indian Gl, Jefferson Co, 15 Jun, EARLY (MSF); common in Bldr & Jeff Co's, whereas rare in 1984 (JAS). H. leonardus pawnee, hill 5.0 mi S of Flagler, 5000', KIT CARSON Co, 25 Aug; 9.8 mi S of Holyoke, PHILLIPS Co, 25 Aug; Hwy 385, 2.4 mi S of Hwy I-76, SEDGWICK Co, NE, 26 Aug; hill 11.6 mi S of Last Chance, 5550', WASHINGTON Co, 19 Aug; 1.8 mi S of Bonny Rsvr, YUMA Co, 25 Aug (all RES). H. leonardus montana, nr Sprucewood Inn, Pine Crk, 7200', EAST, Douglas Co, 25 Aug (MSF); Lone Rock Cg and Cheesman Lk, Jefferson Co, 6 Aug, EARLY (LCK); Roland Gl and E of Crossons, 7160'-7230', 4.1-4.8 mi WNW of Pine, WEST, Jefferson Co, 28 Aug (LCK, JAS, RES); Cheesman Lk, Jefferson Co, 9 Sep, LATE (LCK, RES); Corral Crk at S Platte Rvr, 7350', PARK Co (confirmatory), SOUTH, 25 Aug (BAD). The above records are the result of a major effort to determine the range and extent of this extremely local and potentially endangered skipper species, sponsored by the Denver Water Board. The range was extended only slightly, but the population size is probably 20,000 rather than the 5000 estimated earlier. H. pahaska, 9 mi NW of Carr, WELD Co, NE, 15 Jun (PAO). P. peckius, Denver, 25 Sep, LATE (RES); GUNNISON Co, WEST, 21 Jul 1981 (JAS). P. sabuleti, 1 mi W of Windsor, WELD Co, 6 Jun, EARLY (PAO). P. themistocles, 1 mi N of Hebron, JACKSON Co, 30 Jun; 3.8 mi S of Bonny Rsvr, KIT CARSON Co, 25 Aug; Overland Trail Museum, S of Sterling, LOGAN Co, 26 Aug (all RES); 1 mi W of Windsor, WELD Co, 6 Jun (PAO). P. mystic, N Clear Creek, 7050', GILPIN Co (confirmatory), HIGH, 7 Jul; Limon 5365', LINCOLN Co, SE, 22 Jun; 3 mi SE of Weldona, 4400', MORGAN Co, 29 Jun (all RES). A. campestris, S of Sterling, LOGAN Co, 26 Aug; Holyoke, PHILLIPS Co, 25 Aug; Messex SWA, WASHINGTON Co, 22 Jun (all RES). A. logan, Ft Collins, Larimer Co, 23 Jun, EARLY (RES). A. arogois, Ft Collins, Larimer Co, 23 Jun, EARLY (RES). O. sylvanoides, Green Mtn Rsvr, SUMMIT Co, 15 Jul (JAS). P. taxiles, No Name Crk, Glenwood Cn, Garfield Co, 15 Jun, EARLY for West Slope (RES). E. yestris kiowah, nr Cripple Crk, 8700', HIGH, TELLER Co, 9 Jul (CVC). E. bimacula, Ft Collins, Larimer Co, 23 Jun, EARLY (RES). A. simius and A. oslari, 9 mi NW of Carr, WELD Co, NE, 15 Jun (PAO). A. aenus erna, Two Buttes, Baca Co, 19 Jul (PAO). A. vialis, Uncompahgre Plateau, MONTROSE Co, 8 Jun (RLK). P. polyxenes asterius, BACA Co, SE (JAS); Limon, LINCOLN Co, 7 Sep (RES). P. bairdii, b and y forms, DENVER Co (USNM/PAO); b form, 1 mi S of Atwood, LOGAN Co, 29 Jun (PAO, RES); f. hollandi, E of Unaweep Cn, Mesa Co, 5 Aug (RLK); f. hollandi, identified in hand and released, Mesa Verde NP, Montezuma Co, 14 Aug (MSF); b and y forms, Del Norte, RIO GRANDE Co, early Aug (WHH); y form, Hayden, ROUTT Co, 15 Jul (JAS). P. zelicaon, Horsetooth St Park, Larimer Co, 5 May, EARLY for female (PAO, RES); S Platte Rvr, 1 mi S of Orchard, MORGAN Co, 29 Jun (PAO, RES). P. indra minori, Hwy 139 nr Garfield Co line, RIO BLANCO Co, 2 Jun (RLK). P. rutulus, Hwy 139 nr Garfield Co line, RIO BLANCO Co, 2 Jun (RLK); 1 mi NE of Sawpit, SAN MIGUEL Co, 15 Jun (RLK). P. eurymedon, 1 mi NE of Sawpit, SAN MIGUEL Co, SW, 15 Jun (RLK). P. multicaudatus, Denver, 9 Sep, LATE (RES); Akron, WASHINGTON Co, 9 Jun (PAO); 1 mi NE of Sawpit, SAN MIGUEL Co, 15 Jun (RLK). P. rapae, Springfield, BACA Co, SE, 19 Jul (PAO); Sugarite Crk, LAS ANIMAS Co, 29 Jul (JAS); 1 mi NE of Sawpit, SAN MIGUEL Co, 15 Jun (RLK). P. occidentalis, Hwy 139 nr Garfield Co line, RIO BLANCO Co, 2 Jun (RLK). E. ausonides, DENVER and MONTEZUMA Co, SW (USNM/PAO). C. meadii, SAN MIGUEL Co (USNM/PAO). C. scudderii, 1 mi SW Grizzly Crk Gd Sta, 8600', Jackson Co, 30 Jun, EARLY; Little Flat Tops, 11200', 3 mi S of Chapman Rsvr, RIO BLANCO Co, NW, 3 Aug (both RES). T. arota, TELLER Co, 18 Sep 1957 (BHL). L. cupreus, Little Flat Tops, 11200', 3 mi S of Chapman Rsvr, RIO BLANCO Co, NW, 3 Aug (PAO, RES). L. xanthoides, Messex SWA, 4050', WASHINGTON Co, 22 Jun (RES). L. editha, E Portal, Gilpin Co, 7 Jul, ?EARLY (JAS). L. hyllus, Messex SWA, WASHINGTON Co, 29 Jun (PAO, RES). L. rubidus, 3 mi W of Last Chance, WASHINGTON Co, 9 Jun (PAO). L. editha/rubidus HYBRID, Grand Co, 1 Aug (F/JP); this puts another nail in the coffin of the pseudogenera "Gaeides" and "Chalceria". L. heteronea, 1 mi N of Hebron, Jackson Co, 30 Jun, EARLY (RES); nr W Fk Cg, MINERAL Co, 27 Jul (F/JP); 6.2 mi SW of Oak Creek, 8200', RIO BLANCO Co, 3 Aug (PAO, RES). L. helloides, Surface Crk, DELTA Co, 12 Aug (F/JP); PITKIN and SAN JUAN Counties (USNM/PAO); 3 mi W of Last Chance, WASHINGTON Co, 9 Jun (PAO). L. nivalis, No Name Crk, Glenwood Cn, Garfield Co, 12 Jun, EARLY; 1 mi N of Hebron, JACKSON Co, 30 Jun; Snell Crk PG, 7600', RIO BLANCO Co, 4 Aug (all RES). H. crysalus, 2.8 mi S of Cripple Crk, TELLER Co, 27 Jul 1984 (CVC). H. titus, Lory St Park, Larimer Co, 23 Jun, EARLY (RES). S. behrii, W of Glenwood Airport, Garfield Co, 15 Jun, EARLY (RES); nr Cripple Crk, 8700', TELLER Co, 9 Jul (CVC); 7 mi NW of Carr, WELD Co, NE, 22 Jun (PAO). S. calanus, Mt Zion, Jefferson Co, 7 Jul (CPS); near Wolf Crk Cg, MINERAL Co, 19 Jul 1952 (F/JP); 25.7 mi S of Hayden, E Fk Wms Fk Rvr, 7600', RIO BLANCO Co, 3 Aug (PAO). S. liparops, N Clear Crk, 7050', GILPIN Co, HIGH, 7 Jul (RES); 7 mi NNW of Windsor, WELD Co, 21 Jun (PAO). S. californica, sympatric with S. acadica E of El Dorado Spgs, Boulder Co, 5 Jul (JAS); Lory St Park, Larimer Co, 23 Jun, EARLY (RES); 4.5 mi N of Blue Rvr Cg, SUMMIT Co, 15 Jul (JAS); nr Cripple Crk, 8700', TELLER Co, 9 Jul (CVC). S. acadica, Messex SWA 4050', WASHINGTON Co, 22 Jun,

EARLY (RES). *S. sylvinus*, nr W Fk Cg, MINERAL Co, 27 Jul (F/JP); 25.7 mi S of Hayden, RIO BLANCO Co, 4 Aug (RES). *C. sheridanii*, Aspen Spgs, 8900', HIGH, Gilpin Co, 3 May (RES). *C. affinis*, Horsetooth St Park, LARIMER Co, NE, 5 May (PAO, RES); this is slightly intermediate toward *apama*, like material from nr Laramie, WY, and supports the thesis that these are conspecific. *L. marina*, Queens Lk SWA, KIOWA Co 18 Jul (PAO). *H. isola*, Wolf Crk Cg, MINERAL Co, 19 Jul 1952 (F/JP). *E. comyntas*, Woodmen Valley, El Paso Co, 27 Jul (MSF). *E. amyntula*, Clear Crk Cn, 5900', Jeff Co, 13 Apr, EARLY (RES). *C. argiolus* (*ladon*), 1 mi NE of Sawpit, SAN MIGUEL Co, 15 Jun (RLK). *C. neglecta-major*, female associated with Choke Cherry, Coal Crk Cn, 7000', Jeff Co, 3 Jun (RES). *E. enoptes*, Horsetooth St Park, Larimer Co, 5 May, EARLY (PAO, RES). *L. melissa*, 3 mi W of Last Chance, WASHINGTON Co, 9 Jun (PAO); known now from all prairie counties. *E. saepiolus*, Little Flat Tops, 11200', 3 mi S of Chapman Rsvr, RIO BLANCO Co, 3 Aug (PAO, RES). *I. acmon*, 1 mi N of Hebron, JACKSON Co, 30 Jun (PAO, RES); nr Cripple Creek 8700', TELLER Co, 9 Jul (CVC). *I. shasta*, 1 mi N of Hebron, JACKSON Co, 30 Jun (PAO). *L. bachmani*, Nee Sopah Rsvr, KIOWA Co, 22 Sep 1984 (PAO). *E. claudia*, Queens Lk SWA, KIOWA Co, 18 Jul (PAO); Hwy 139 nr Garfield Co line, RIO BLANCO Co, 2 Jun (RLK). *S. cybele cybele*, Highline Canal nr Sand Crk, ARAPAHOE Co, WEST, 14 Jul (PAO); first Denver metro area record for this eastern butterfly. *S. c. charlottii*, 25.7 mi S of Hayden, E Fk Wms Fk Rvr, RIO BLANCO Co, 3 Aug (PAO, RES). *S. aphrodite ethne*, 21.6 mi N of Limon, LINCOLN Co, 22 Jun; hill 11.6 mi S of Last Chance, WASHINGTON Co, EAST, 19 Aug (both RES). *S. idalia*, one worn female, Overland Trail Museum, S of Sterling, LOGAN Co, 26 Aug (RES). *S. nokomis*, colonies in La Plata, Mesa and Ouray Counties are "doing fair" (RLK). *S. edwardsii*, 2.0 mi N of Manzanola, CROWLEY Co, 7 Sep (RES); 21.6 mi N of Limon, LINCOLN Co, 22 Jun (RES); 3 mi W of Last Chance, WASHINGTON Co, 9 Jun (PAO). It's not unusual to see fresh females of *edwardsii* in Sept or even Oct, months after the males are gone; aestivation must occur, since all *Speyeria* are univoltine. *S. callippe harmonia*, Little Flat Tops, 11200', HIGH, Rio Blanco Co, 3 Aug, LATE (RES). *S. c. meadii*, 9 mi NW of Carr, WELD Co, NE, 15 Jun (PAO). *S. egleis secreta*, No Name Crk, Glenwood Cn, Garfield Co, 12 Jun, EARLY; 25.7 mi S of Hayden, E Fk Wms FK Rvr, RIO BLANCO Co, 3 Aug (both RES). *B. selene tollandensis*, near type locality, East Portal, Gilpin Co, 7 Jul (JAS); the insect is nearly extinct there because of stream channelization and elimination of its bog habitats. *B. titania*, Little Flat Tops, 11200', RIO BLANCO Co, NW, 3 Aug (PAO, RES). *C. damoetas*, Little Flat Tops, 11200', RIO BLANCO Co, NW, 3 Aug (PAO). *C. palla calydon*, 3 mi SW of Grizzly Crk Guard Sta, 8800', Jackson Co, WEST, 30 Jun (PAO, RES). *P. tharos* "A", Indian Gl, Clear Crk Cn, Jeff Co, 13 Apr, EARLY (RES); 9 mi S of Lindon, WASHINGTON Co, 9 Jun (PAO). *P. picta*, Queens Lk SWA, KIOWA Co, 18 Jul; 3 mi W of Last Chance, WASHINGTON Co, 9 Jun (both PAO). *P. satyrus*, S Platte Rvr, 1 mi S of Orchard, MORGAN Co, 29 Jun; Ripple Crk Pass, 10400', HIGH, RIO BLANCO Co, 4 Aug (both RES); Ferndale PG, W of Rabbit Ears Pass, ROUTT Co, 10 Aug (F/JP). *P. zephyrus*, Wolf Crk Cg, MINERAL Co, 19 Jul 1952 (F/JP). *P. oreas nigrozephyrus*, Ripple Crk Pass, 10400', HIGH, RIO BLANCO Co, NW, 4 Aug (PAO). *P. faunus hylas*, Sugarite Crk, LAS ANIMAS Co, 29 Jul (JAS); Ferndale PG, W of Rabbit Ears Pass, ROUTT Co, 10 Aug (F/JP). *N. antiopa*, Nee Sopah Rsvr, KIOWA Co, 18 Jul (PAO); now known from all Colorado counties except Cheyenne Co. *N. californica*, Craig Cr, 8400', 7 mi S of Bailey Park Co, 13 Jul 1975 (JLH). *V. atalanta*, Kit Carson, CHEYENNE Co, 8 Sep; Limon, LINCOLN Co, 7 Sep (both RES). *V. cardui*, Boulder, Boulder Co, 1 Jan 1934, EARLY (TDA Cockerell, Ent News 45:174/PAO); not surprisingly, this is the earliest record for any butterfly in Zone 4. *V. carye annabella*, Flagler, KIT CARSON Co, EAST, 25 Aug (RES). *V. virginiensis*, 16.1 mi N of Ordway, CROWLEY Co, 7 Sep (RES); Queens Lk SWA, KIOWA Co, 18 Jul (PAO); Little Flat Tops, 11200', HIGH, RIO BLANCO Co (this species is very rare on the West Slope), 3 Aug (RES); Messex SWA, S Platte Rvr, WASHINGTON Co, 29 Jun (RES). *B. archippus*, Queens Lk SWA, KIOWA Co, 8 Sep; Rocky Ford SWA, 2 mi NE of Rocky Ford, OTERO Co, 7 Sep (both RES). *B. weidemeyerii*, Chapman Rsvr, RIO BLANCO Co, 3 Aug (PAO, RES). *A. andria*, Barr Lk, ADAMS Co, 17 Aug (JAS). *A. celtis montis*, Barr Lk, Adams Co, 12 Oct, LATE (Kit Stanford/RES); 0.5 mi N of Fowler, OTERO Co, 28 Jul (RES); 4 mi SE of Windsor, WELD Co, 20 Jun (PAO). *S. eurydice fumosa*, Laporte, Larimer Co, 23 Jun, EARLY (SLE); 25 Jun (PAO); 29 Jun (PAO, RES); first Colorado records in over 40 years; this colony must not be overcollected pending further research. *C. pertepida dorothea*, Golden Gate Cn St Park (PARK record), Gilpin Co, 7 Jul (CPS). *C. tullia ochracea*, Horsetooth St Park, Larimer Co, 5 May, EARLY (PAO, RES); 8 mi NW of Carr, WELD Co, NE, 12 Jun (PAO). *C. pegala*, 0.5 mi N of Fowler, BENT Co, 28 Jul; 1.5 mi N of Manzanola, CROWLEY Co, 27 Jul; Denver, 28 Jun, EARLY (all RES); Queens Lk SWA, KIOWA Co, 18 Jul (PAO); now known from all Colorado prairie counties. *C. meadii*, Longview, S Platte Rvr Vy, Jeff Co, 16 Jul, EARLY; Chessman Lk, 7000', Jeff Co, 9 Sep, LATE (both RES). *C. oetus*, Lory St Park, Larimer Co, 23 Jun, EARLY (RES). *N. ridingsii*, LA PLATA Co, SW (USNM/PAO); hill 5550', 11.6 mi S of Last Chance, WASHINGTON Co, 22 Jun (RES). *D. gilippus*, Queens Lake SWA, KIOWA Co, 18 Jul (PAO).

MOTHS: *Anania funebris*, diurnal, No Name Crk, Glenwood Cn, Garfield Co, 13 Jun (RES). *Arctia caja*, larvae on Mtn Bluebell, *Mertensia ciliata*, reared to adults, San Miguel and Garfield Counties (RLK). *Ctenucha cressonana*, diurnal, nr Cripple Creek, 8700', Teller Co, 9 Jul (CVC). *Hemileuca hera magnifica*, abundant, adults and 3-5 instar larvae, Jaroso, Costilla Co, 23-24 Aug (SS); Blue Mesa Rsvr, Gunnison Co, 3 Aug (RLK). *Hyalophora gloveri*, No Name Crk, Glenwood Cn, Garfield Co, 15 Jun (RES). *Proserpinus juanita*, diurnal, Smoky Hill Rd at Piney Crk, Arapahoe Co, 9 Jun (RES). *Scopula limboundata*, Rock Crk Cn, 6500', El Paso Co, 11 Jul (CVC). *S. sentinaria*, Leavick Vy, Park Co, 10 Jul (CVC). *Syngrapha ignea*, Leavick Vy, Park Co, 16 Jul (CVC). RHL reported the following among other species collected at Castlewood Cn, Douglas Co, 19-21 May; *Euagrotis ?beata*, *Eupithecia alpinata*, *Hydriomena perfracta*, *Hyperaeschra tortuosa*, *Lithocolletis hageni*, *L. fitchella*, *L. salicifoliella*, *Rhyacionia fumosana*. At the same locality, 10-11 Sep he found *Apantesis gibsoni*, *Crambidia casta*, *Ceremota partita*, *Oncocnemis balteata* and *Epizeuxis majoralis*. TSD sent several hundred moth records from Colorado, including 179 species. There isn't space to list all of these, so I will give some of the more popular species in an abbreviated format; perhaps I can list more of them next year. County abbreviations are spelled out the first time used. *Fernaldia coloradella* Ro (Routt Co), Aug. *Eucosma hypnometana* Mg (Morgan Co), Aug. *Argyrotaenia coloradana* Gr (Grand Co), Jul. *Semiothisa curvata* Gr, Jul-Aug. *S. hebetata* Gr, Jul. *Hesperumia sulphuraria* Gr, Jul. *Biston betularia* Gr, Aug. *Sericosema juturnaria* Ro, Aug. *Campaea perlata* Gr, Jul. *Ennomis magnaria* Gr, Aug. *Caripeta aequalitaria* Gr, Jul-Aug. *Snowia montanaria* Gr, Jul. *Sicya macularia* Ro, Aug; Gr, Aug. *Chlorosea nevadaria* Gr, Jul. *Cheteoscelis bistriaria* Gr, Jul. *Mesoleuca ruficillata* Gr, Jul. *Epirrhoe alternata* Gr, Jul. *Tolype distincta* Gr, Aug. *Smerinthus jamaicensis* Ro, Jul. *Pachysphinx occidentalis* Mg, Aug. *Eumorpha achemon* Mg, Aug. *Hyles lineata* Gr, Jul; Mg, Aug. *Gluphisia septentrionis ridenda* Ro, Jul; Mg, Aug. *Furcula cinerea wileyi* Mg, Aug. *F. occidentalis gigans* Gr, Jun-Jul. *F. scolopendrina* Gr, Jul. *Heterocampa lunata* Ro, Jul. *Schizura unicornis* Ro, Jul. *Oligocentria pallida* Gr, Ro, Jul-Aug. *O. coloradensis* Ro, Jul. *Gnophaela latipennis* Gr, Aug. *Eilema bicolor* Gr, Jul. *Lycomorpha pholus miniata* Gr, Aug. *Parasemia plantaginis* Gr, Jul. *Turuptiana permaculata* Gr, Jul-Aug. *Arctia caja utahensis* Gr, Ro, Aug. *Apantesis bolanderi* Mg, Aug. *A. elongata* Gr, Aug. *A. williamsii* Gr, Jun. *Lophocampa maculata* Gr, Jul-Aug; Ro, Jul. *Bertholdia trigona* Gr, Aug. *Ciseps fulvicollis* Gr, Jul. *Asticta victoria* Ro, Jul. *Caenurgina crassiuscula* Bo (Boulder Co), Aug; Mg, Aug. *C. erechtea* Bo, Aug. *Catocala grotiana* Gr, Aug. *Trichoplusia ni* Mg, Aug. *Polychrysis morigera* Ro, Aug. *Autographa mappa* Gr, Jul. *A. pseudogamma* Gr, Ro, Jun-Aug. *A. californica* Gr, Jul. *A. ampla* Gr, Ro, Jul. *Anagrapha falcifera* Gr, Jul. *Syngrapha viridisigma* Gr, Ro, Aug. *S. microgamma* Gr, Jul 1984. *S. ignea* Gr, Jun-Aug. *Plusia putnami* Gr, Ro, Jul. *Acronicta lepusculina cyanescens* Gr, Jul. *A. leporina cretatoides* Ro, Jul. *A. grisea revellata* Ro, Jul. *Merolonche ursina* Gr, Jul. *Eudryas unio* Mg, Aug. *Alypia octomaculata* Gr, Ro, Jul. *Apamea protei* Bo, Aug. *A. auranticolor sora* Gr, Jul. *A. vultuosa* Gr, Jul. *A. amputatrix* Gr, Aug. *A. alia* Gr, Jul. *A. spaldingi* Gr, Jul. *Agroperina*

lateritia Gr, Jul. A. geminimacula Bo, Aug. A. conradi Gr, Ro, Aug. A. popofensis indela Ro, Aug. A. helva Mg, Aug. Protogrotis extensa Gr, Aug. Crymodes devastator Gr, Jul-Aug; Mg, Aug. Luperina stipata Mg, Aug. Oligia fractilinea albescens Mg, Aug. O. violacea Bo, Aug. O. egens Gr, Aug. Xylomoia didonia Gr, Aug. Archana oblonga Mg, Aug. Helotropia reniformis Mg, Aug. Amphipoea americana Mg, Aug. A. senilis Gr, Aug. Papaipema nelita Gr, Ro, Aug. Hydraecia perobliqua Mg, Aug. Euplexia benesimilis Ro, Jul. Enargia mephisto Gr, Mg, Ro, Jul-Aug. Andropolia diversilineata Gr, Aug. Hyppa brunneicrista Gr, Jun. Pseudanarta flavidens Gr, Jul-Aug. Amphipyra pyramidoides Mg, Aug, at bait. Platyperigea meralis Bo, Gr, Aug. P. extima Gr, Jul-Aug. Platysenta videns Mg, Aug. P. temecula Gr, Aug. Stibadium spumosum Mg, Aug. Plagiomimicus expallidus Mg, Aug. P. triplagiatus Mg, Aug. Stiria rugifrons Mg, Aug. Achytonix epipaschia Bo, Gr, Aug. Anathix puta dusca Ro, Aug. Mniotype versuta Gr, Jul. M. ducta Ro, Jul. Brachylomia populi Gr, Aug. Lomilysis discolor Ro, Aug. Pleromelloida obliquata Gr, Aug. Homohadena fifia Gr, Jul. Oncocnemis hayesi Gr, Aug. O. albifasciata Gr, Jul-Aug. O. levis Gr, Aug. O. homogena Bo, Aug. O. chorda Gr, Jul. Sympistis zetterstedti Gr, Aug. Cucullia intermedia Gr, Ro, Jul. C. florea Gr, Aug. C. montanae Mg, Aug. Discestra farnhami Gr, Jul. Mamestra curialis Gr, Jul. Polia discalis Gr, Jul. P. rogenhoferi Gr, Jul. P. nugatis Gr, Ro, Jul. Melanchra adjuncta Gr, Jul. Lacanobia radix Gr, Ro, Jul. L. legitima Mg, Aug. Papestra invalida Gr, Jul. Hecatera sutrina Gr, Jul. Miselia variolata Ro, Aug. Anarta melanopa Gr, Jul. Lacinipolia meditata columbia Bo, Mg, Aug. L. vicina Mg, Aug. L. renigera Gr, Mg, Aug. L. lorea Ro, Jul. L. laudabilis Gr, Jul. Faronta tetera Mg, Aug. Aletia oxygala Gr, Jun-Aug. Leucania multilinea Gr, Mg, Jul-Aug. L. commoides Mg, Aug. L. insueta Gr, Jun-Jul; Ro, Jul. Nephelodes minians Gr, Jul-Aug. More next year. TSD wishes to acknowledge the help of Drs. M. S. Adams, John G. Franclemont and Tim McCabe in identifying material.

NEW MEXICO. Contributors: SJC, JCC, CDF, JPF, JLH, PAO, JAS, RES, WLS, MET. It was a good season on the eastern prairies, but mainly cold and wet in the northern mountains. Southern NM had an average year, with several exotic species recorded.

BUTTERFLIES: 319 data points were received, including 249 county records, 7 state records, 6 Zone records, 134 species and 25 of 33 counties. The average number of species per county went up from 86.00 to 97.27, and could reach 100 in 1986. Abbreviations; ENMU = Eastern New Mexico Univ collection; NMGF = New Mexico Dept of Game and Fish collection; NMHU = New Mexico Highlands Univ collection; Sta = Santa. P. araxes arizonae, HIDALGO Co, STATE, ZONE, EAST, 3 Sep 1977 (W Baltosser/MET/SJC). E. clarus, Las Vegas, SAN MIGUEL Co, 28 Jul 1983 (NMHU/SJC). Z. dorus, 1 mi SE of Ledoux, MORA Co, 15 May (RES). T. pylades, Cimarron Cn, COLFAX Co, 29 Jun (SJC). E. brizo burgessi, 5 mi W of Caprock, CHAVES Co, 6 Apr (SJC); 10 mi NE of Broadview, CURRY Co, 26 May (SJC); Sta Rosa Lk Park, GUADALUPE Co, 24 May (SJC); Canadian Rvr Cn at Hwy 120, HARDING Co, 12 May (RES); 1 mi W of Maljamar, LEA Co, SE, 6 Apr (SJC); Canadian Rvr Cn at Hwy 120, MORA Co, 12 May (JAS,RES); Caprock Park, 8 mi S of San Jon, QUAY Co, 13 May (SJC,RES); 3 mi E of Portales, ROOSEVELT Co, 15 Apr 1967 (ENMU/SJC). E. juvenalis clitus, Clanton Draw, HIDALGO Co, STATE, EAST, 23 Apr 1972 (MET, det JMB); vic Cooke's Peak, LUNA Co, 11 May (SJC, tentative det). E. telemachus, vic Cooke's Peak, LUNA Co, 11 May (SJC); Hwy 3, 1 mi NE of pass, 9200', HIGH, MORA Co, 15 May (RES). E. meridianus, Rock Hound St Park, LUNA Co, 9 Apr (SJC). E. pacuvius, Coyote Crk St Pk, MORA Co, 28 Jun (SJC). E. funeralis, Lovington, LEA Co, SE, 26 Jun 1977 (NMGF/SJC); Mahoney Wash, LUNA Co, 5 Oct (SJC); Santa Fe, SANTA FE Co, 26 Jul (SJC). E. persius, Pajarito Ski Area, LOS ALAMOS Co, 7 Jul; Coyote Crk St Pk, MORA Co, 28 Jun (both SJC). P. xanthus, 1 mi SE of Ledoux, MORA Co, 15 May (JAS,RES). P. philetas, Mahoney Wash, LUNA Co, 5 Oct (SJC). P. communis, Rock Hound St Pk, LUNA Co, many records (SJC); this becomes the 7th species to be known from all 33 NM Counties, and the first skipper to be known from all counties of any Zone 4 state. C. nessus, nr Sumner Dam, DE BACA Co, 15 Jun (SJC); Sta Rosa Lk Park, GUADALUPE Co, 24 May (SJC); Canadian Rvr Cn at Hwy 120, HARDING Co, NORTH, 12 May (JAS); 1 mi N of Variadero, SAN MIGUEL Co, NORTH, 13 May (SJC). H. alpheus, Bottomless Lks, CHAVES Co, 25 March (SJC). P. catullus, Ft Sumner St Mon, DE BACA Co, 15 Jun (SJC); Sta Rosa Lk Park, GUADALUPE Co, 24 May (SJC); 4 mi NW of Logan, HARDING Co, 14 May (SJC,JAS). P. pirus, Coyote Crk St Park, MORA Co, 28 Jun (SJC). A. arene, below Percha Dam, SIERRA Co, 15 Oct (SJC). O. garita, nr Coyote Crk St Park, MORA Co, 28 Jun (SJC). C. aurantiaca, Roswell, CHAVES Co, 22 Sep; 10 mi NE of Broadview, CURRY Co, 16 Jun; nr Sumner Dam, DE BACA Co, 14 Sep; Sta Rosa Lk Park, GUADALUPE Co, 24 May; Ute Lk St Park, QUAY Co, 14 May (all SJC); Portales, ROOSEVELT Co, 26 Jul 1971 (ENMU/SJC). H. phyleus, Roswell, CHAVES Co, 22 Sep (SJC). Y. rhesus, Canadian Rvr Cn at Hwy 120, MORA Co, 12 May (RES); Caprock Park, QUAY Co, 14 May (RES); La Junta, TAOS Co, 7 Jun (SJC). Y. carus, Ute Lk St Park, QUAY Co, NORTH, 16 Jun (SJC). H. uncas, 10 mi NE of Broadview, CURRY Co, 26 May; 3 mi N of Taiban, DE BACA Co, 24 May; 1 mi S of Jal, LEA Co, SE, 12 Sep 1977 (NMGF; all SJC). H. pahaska, Sta Rosa Lk Park, GUADALUPE Co, 13 Jul; Mahoney Wash, LUNA Co, 12 May (both SJC). H. viridis, 27 mi SW of Hope, CHAVES Co, 2 Jun; 10 mi NE of Broadview, CURRY Co, 26 May; nr Sumner Dam, DE BACA Co, 24 May; Sta Rosa Lk Park, GUADALUPE Co, 24 May (all SJC). P. draco, Pajarito Ski Area, LOS ALAMOS Co, 7 Jul; nr Coyote Crk St Park, MORA Co, 28 Jun (both SJC). P. themistocles, nr Dog Cn Cg, EDDY Co, SE, 2 Jun (SJC). A. campestris, Ft Sumner St Mon, DE BACA Co, 14 Sep; Caprock Park, QUAY Co, 14 May; below Percha Dam, SIERRA Co, 15 Oct (all SJC). A. logan lagus, Bottomless Lks, CHAVES Co, 30 May; nr Rattlesnake Spgs, EDDY Co, SOUTH, 1 Jun; Clayton Lk St Park, UNION Co, NE, 30 Jun (all SJC). E. ruricola (vestris), Coyote Crk St Park, MORA Co, 28 Jun (SJC). A. hianna, 5.3 mi W of Raton, Colfax Co, 16 May, EARLY (JAS,RES). A. vierecki, Sta Rosa Lk Park, GUADALUPE Co, 24 May (SJC); Canadian Rvr Cn at Hwy 120, MORA Co and HARDING Co, 12 May (JAS,RES); Caprock Park, QUAY Co, 14 May (SJC,JAS,RES); 18.5 mi WNW of Tucumcari, SAN MIGUEL Co, 13 May (SJC,JAS,RES). A. python, nr Dog Cn Cg, EDDY Co, 2 Jun; nr Cooke's Peak, LUNA Co, 11 May (both SJC). A. simius, 10 mi NE of Broadview, CURRY Co, 26 May; Sta Rosa Lk Park, GUADALUPE Co, 24 May (both SJC). A. aenus, nr Sumner Dam, DE BACA Co, 24 May (SJC); Sta Rosa Lk Park, GUADALUPE Co, 24 May (SJC); Canadian Rvr Cn at Hwy 120, MORA Co, 12 May (JAS); La Junta, TAOS Co, 7 Jun (SJC). A. texanae (tentative det), Indian Crk Cn, OTERO Co, 2 Jun (SJC). A. nysa, nr Sumner Dam, DE BACA Co, 13 Jul (SJC). A. eos, 5 mi W of Caprock, CHAVES Co, 6 Apr, EARLY; 10 mi NE of Broadview, CURRY Co, 16 Jun; nr Sumner Dam, DE BACA Co, 13 Jul; McAdams St Park, LEA Co, SE, 6 Apr; nr Cooke's Peak, LUNA Co, 11 May; Canadian Rvr Cn at Hwy 120, MORA Co, 30 Jun (all SJC); 18.5 mi WNW of Tucumcari, SAN MIGUEL Co, 13 May (SJC,RES). L. eufala, Jal, LEA Co, SE, 12 Sep 1977 (NMGF/SJC); Mahoney Wash, LUNA Co, 5 Oct (SJC). C. ethlius, Portales, ROOSEVELT Co, STATE, ZONE, NORTH, 18 Oct 1966 (ENMU/SJC). A. aryxna, Mahoney Wash, LUNA Co, 5 Oct (SJC). M. streckeri texanus, 5 mi S of Springer, COLFAX Co, 2 Jul 1974 (JLH); 10 mi NE of Broadview, CURRY Co, 26 May (SJC); nr Sumner Dam, DE BACA Co, 24 May (SJC); Hwy 39, 2 mi N of Quay Co line, HARDING Co, 14 May (SJC,JAS,RES); 18.5 mi WNW of Tucumcari, SAN MIGUEL Co, 13 May (SJC,JAS). B. polydamas, Mahoney Wash, Florida Mts, LUNA Co, STATE, ZONE, NORTH, 12 May (SJC). B. philenor, nr Maljamar, LEA Co, SE, 21 Sep (SJC). P. polyxenes asterius, CHAVES, CURRY, DE BACA, HARDING, LEA, SE, LOS ALAMOS and QUAY Counties, 6 Apr - 7 Jul (SJC); now known from all but Taos Co. P. cresphontes, Taiban, DE BACA Co, 23 Jul (SJC). P. multicaudatus, Roswell, CHAVES Co, 22 Sep (SJC); Sta Rosa Lk Park, GUADALUPE Co, 24 May (SJC); Portales, ROOSEVELT Co, 12 Sep 1971 (ENMU/SJC). P. eurymedon, Coyote Crk St Park, MORA Co, 28 Jun (SJC). P. sisymbrii, 1.0 mi SE of Ledoux, MORA Co, 15 May (JAS). P. rapae, GUADALUPE, LUNA, MORA, ROOSEVELT and UNION, NE, Counties, 12 May - 15 Oct (all SJC, except Mora Co RES). E. hyantis, Rio Grande Gorge, TAOS Co, EAST, 24 Apr, EARLY (SJC). C. philodice, HARDING, QUAY, ROOSEVELT, SIERRA (SJC,RES,MET); now known from all NM counties, and all counties in Zone 4 except Mineral Co, Colorado (see remarks on this species in Montana and Utah). C. alexandra, Coyote Crk St Park, MORA Co, 28 Jun (SJC). Z. cesonia, Roswell,

CHAVES Co, 22 Sep; nr Sumner Dam, DE BACA Co, 15 Jun; Sta Rosa Lk Park, GUADALUPE Co, 15 Jun (all SJC); Hwy 3 at Flechado Cg, TAOS Co, 15 May, EARLY (RES). P. sennae, nr Sumner Dam, DE BACA Co, 23 Jul; Hobbs, LEA Co, SE, 25 May; Rio Grande Gorge, TAOS Co, 24 Apr, EARLY (all SJC). K. lyside, nr Lovington, LEA Co, SE, 26 Jun 1977 (NMGF/SJC); Mahoney Wash, LUNA Co, 5 Oct (SJC). E. boisduvaliana, Guadalupe Cn, HIDALGO Co, STATE, ZONE, NORTH, 8 Sep 1984 (SJC); this is a correction of last year's record for E. salome, which was a misdetermination. E. lisa, Bonito Lk, LINCOLN Co (ENMU/SJC), no date; R. Holland has a record from Lincoln Co in 1982. E. nicippe is now known from all but Harding Co in NM. T. arota, Folsom Falls, UNION Co, EAST, 30 Jun, EARLY (SJC). P. alcestis, Sta Rosa Lk Park, GUADALUPE Co, 15 Jun; Hwy 325, 17 mi E of Hwy 551, UNION Co, NE, 30 Jun (both SJC). M. leda, Slaughter Cn, EDDY Co, 1 Jun (SJC). M. siva, 10 mi NE of Broadview, CURRY Co, 26 May; nr Sumner Dam, DE BACA Co, 24 May; Sta Rosa Lk Park, GUADALUPE Co, 24 May (all SJC); Caprock Park, QUAY Co, 14 May (SJC, JAS, RES). M. gryneus castalis, nr Dog Cn Cg, EDDY Co, STATE, ZONE, WEST, 2 Jun (SJC), [two older records are vague and dubious - RES]. I. augustus, nr Cooke's Peak, LUNA Co, 11 May (SJC). I. polios, Hwy 555, 18.0 mi W of Raton, 8123', COLFAX Co, NE, 16 May (RES). F. polingi organensis, nr Dog Cn Cg, EDDY Co, EAST, 2 Jun (SJC). S. melinus, 3 mi N of Taiban, DE BACA Co, 24 May; McAdams St Park, LEA Co, SE, 6 Apr, EARLY (both SJC); now recorded from all NM counties except Taos Co. B. exilis, Sta Rosa Lk Park, GUADALUPE Co, 15 Jun (SJC); 4 mi N of Cerrillos, SANTA FE Co (confirmatory), 1 Aug 1978 (JPF). L. marina, nr Sumner Dam, DE BACA Co, 14 Sep (SJC); Bell Lk, LEA Co, SE, 10 Jun 1978 (NMGF/SJC); now recorded from all NM counties. H. ceraunus, Mahoney Wash, LUNA Co, 5 Oct (SJC). C. argiolus (ladon), Spring Cn, LUNA Co, 10 May (SJC). L. melissa, nr Rattlesnake Spgs, EDDY Co, 1 Jun; Sta Rosa Lk Park, GUADALUPE Co, 15 Jun (SJC); Portales, ROOSEVELT Co, 19 May 1967 (ENMU/SJC). I. icarioides, Rowe Mesa, SAN MIGUEL Co, 30 Jun 1983 (JPF). I. acmon, 8 mi NE of Clovis, CURRY Co, 21 May; nr Sumner Dam, DE BACA Co, 14 Sep, LATE; Hobbs, LEA Co, SE, 25 May (all SJC); now known from all NM counties except Guadalupe and Quay. E. battoides, 3 mi E of Hwy 22 on FS Rd 102, Sangre de Cristo Mts, SANTA FE Co, 17 Jul 1984 (JPF). A. mormo, Spring Cn, LUNA Co, 10 May (SJC). L. bachmanii, nr Lovington, LEA Co, SE, 26 Jun 1977 (NMGF/SJC). A. vanillae, Ft Sumner St Mon, DE BACA Co, 14 Sep (SJC); 1 mi S of Jal, LEA Co, SE, 12 Sep 1977 (NMGF/SJC). E. claudia, 1 mi W of Maljamar, LEA Co, SE, 6 Apr, EARLY (SJC); known from all but Los Alamos Co. P. minuta, 10 mi NE of Broadview, CURRY Co, 21 May; 3 mi N of Taiban, DE BACA Co, 24 May; 25 mi E of Sta Rosa, GUADALUPE Co, 26 May (all SJC); Canadian Rvr Cn at Hwy 120, HARDING Co, 12 May (JAS, RES); 18.5 mi WNW of Tucumcari, SAN MIGUEL Co, 13 May (SJC, RES); Caprock Park, QUAY Co, 13 May (SJC, JAS). P. minuta/arachne intergrades, Bonito Lk, LINCOLN Co (ENMU/SJC). P. arachne, La Junta, TAOS Co, 7 Jun (SJC). T. theona, 10 mi NE of Broadview, CURRY Co, 16 Jun (SJC). T. fulvia, nr jct Hwys 31/172, CHAVES Co, 6 Apr, EARLY; 10 mi NE of Broadview, CURRY Co, 21 May; 25 mi E of Sta Rosa, GUADALUPE Co, 26 May (all SJC); Canadian Rvr Cn at Hwy 120, HARDING Co, 12 May (JAS, RES); 0.5 mi E of Maljamar, LEA Co, SE, 25 May; nr Cooke's Peak, LUNA Co, 11 May (both SJC). C. lacinia, Bell Lk, LEA Co, SE, 8 Sep 1977 (NMGF/SJC). C. gorgone, nr Sumner Dam, DE BACA Co, 15 Jun; Ute Lk St Park, QUAY Co, 14 May (both SJC); Portales, ROOSEVELT Co, 25 Sep 1963 (ENMU/SJC). C. neumoegeni sabina, nr Cooke's Peak, LUNA Co, 11 May (SJC). A. texana, nr Sumner Dam, DE BACA Co, 14 Sep; nr Cooke's Peak, LUNA Co, 11 May (both SJC). P. phaon, nr Sumner Dam, DE BACA Co, 15 Jun (SJC). P. tharos complex, CHAVES, DE BACA, GUADALUPE, HIDALGO, ROOSEVELT and SIERRA Counties (all SJC); I will cite full data when these are broken down to subspecies or species (pascoensis, distincta, tharos). P. picta, Ft Sumner St Mon, DE BACA Co, 14 Sep; Monument Draw, LEA Co, SE, 6 Apr, EARLY; nr Cooke's Peak, LUNA Co, 11 May (all SJC). P. mylitta, nr Cooke's Peak, LUNA Co, 11 May (SJC). E. anicia alena, Rio Grande Gorge, TAOS Co, 7 Jun (SJC). P. interrogatioris, Roswell, CHAVES Co, 2 Oct 1966, LATE (ENMU/SJC); nr Sumner Dam, DE BACA Co, 15 Jun (SJC). P. satyrus, Indian Crk, HIDALGO Co, SOUTH, 2 Jul 1978 (NMGF/SJC); 2 mi S of Cleveland, MORA Co, 15 May (JAS, RES); 13 mi N of El Rito, RIO ARriba Co, 25 May (JAS). P. zephyrus, 2 mi S of Cleveland, MORA Co, 15 May (JAS, RES). P. faunus hylas, Hwy 3 at Flechado Cg, Taos Co, 15 May (JAS, RES). N. californica, Pajarito Ski Area, LOS ALAMOS Co, 7 Jul (SJC). N. antiopa, CHAVES, DE BACA, GUADALUPE, LUNA and QUAY Counties, 14 May - 24 Oct (all SJC); known from all but Hidalgo and Los Alamos Co's. V. atalanta, CHAVES, DE BACA, HARDING and LEA, SE, Counties, 7 Apr - 15 Oct (all SJC); known from all but Los Alamos and Quay Co's. V. virginensis, CHAVES, CURRY, DE BACA, GUADALUPE, HARDING and LEA, SE, Counties, 14 May - 14 Oct (all SJC). V. carye annabella, Portales, ROOSEVELT Co, 27 Jul 1971 (ENMU/SJC); below Percha Dam, SIERRA Co, 15 Oct (SJC). A. bredowii, below Percha Dam, SIERRA Co, 15 Oct (SJC). J. coenia, 2 mi W of Floyd, ROOSEVELT Co, 26 Jun 1977 (NMGF/SJC); Ute Lk St Park, QUAY Co, 16 Jun; below Percha Dam, SIERRA Co, 15 Oct (both SJC). B. a. archippus, Rio Grande at US Hwy 380, SOCORRO Co, 18 Jul (SJC). B. a. obsolleta, nr Sumner Dam, DE BACA Co, 24 May (SJC). A. andria, 1 mi W of Maljamar, LEA Co, SE, 6 Apr (SJC). A. celtis antonia, Arroyo del Macho, CHAVES Co, 30 May; 10 mi NE of Broadview, CURRY Co, 26 May; nr Sumner Dam, DE BACA Co, 23 Jul; Sta Rosa Lk Park, GUADALUPE Co, 15 Jun; Ute Lk St Park, QUAY Co, 14 May; Portales, ROOSEVELT Co, 10 Sep 1980 (all SJC, the last ENMU). C. pertepida dorothea, 25 mi E of Sta Rosa, GUADALUPE Co, 26 May; nr Cooke's Peak, LUNA Co, 11 May (both SJC); 10 mi E of Mosquero, Harding Co, 14 May (RES). M. r. rubricata, Sta Rosa Lk Park, GUADALUPE Co, STATE, ZONE, NORTH, 15 Jun; below Conchas Dam, SAN MIGUEL Co, 16 Jun (both SJC). C. pegala, 10 mi NE of Broadview, CURRY Co, 16 Jun (SJC). N. ridingsii, nr Coyote Crk St Park, MORA Co, 28 Jun; La Junta, TAOS Co, 4 Jul (both SJC). O. uhleri, TAOS Co (USNM/PAO). O. chryxus, Pajarito Ski Area, LOS ALAMOS Co, 7 Jul (SJC). D. plexippus, CHAVES, DE BACA, LOS ALAMOS and ROOSEVELT Counties, 15 Jun - 17 Oct (all SJC); known from all but Torrance Co.

MOTHS: Antheraea polyphemus oculatea, Juan Tabo Cn, Sandia Mts, Bernalillo Co, 14 Jun; Las Huertas Cn, Sandoval Co, 30 May; Water Cn, Magdalena Mts, Socorro Co, 16 Jun (all JCC). Automeris io neomexicana, Las Huertas Cn, Sandoval Co, 30 May (JCC). A. pamina, Water Cn, Magdalena Mts, Socorro Co, 16 Jun (JCC). A. zephyria, Juan Tabo Cn, Bernalillo Co, 5-14 Jun; High Rolls, Otero Co, 17 Jun (both JCC). Catocala amatrix, Mangus Spgs, Grant Co, 16 Aug (CDF). C. delilah, same locality, 26 Oct (CDF). C. euphemia, same, 16 Aug (CDF). Cisseps fulvicollis, same (CDF). Coloradia doris, Water Cn, Socorro Co, 16 Jun (JCC). Crymodes devastator, Mt Taylor, Cibola Co, 10 Aug (CDF). Hemileuca hera magnifica, Albuquerque, Bernalillo Co, 28 Aug - 22 Sep (JCC). H. juno, larvae, Elephant Butte Lk Park, NE of Truth or Consequences, Sierra Co, 8 May (JCC). Hyalophora gloveri, Juan Tabo Cn, Bernalillo Co, 23 May - 14 Jun (JCC). Manduca quinqueaculata and M. sexta, Mangus Spgs, Grant Co, 16 Aug (CDF). Pachysphinx occidentalis, same data (CDF). Paonias myops, Las Huertas Cn, Sandoval Co, 30 May (JCC). Pseudaletia unipuncta, Mt Taylor, Cibola Co, 10 Aug (CDF). Schinia (10 species incl S. gaurae), Mangus Spgs, Grant Co, 16 Aug (CDF). Smerinthus cerisvi, Mangus Spgs, Grant Co, 16 Aug (CDF); Las Huertas Cn, Sandoval Co, 30 May (JCC). Sphingicampa hubbardi, Mangus Spgs, Grant Co, 16 Aug (CDF). Sphinx dollii, Water Cn, Socorro Co, 16 Jun (JCC). S. istar, Las Huertas Cn, Sandoval Co, 30 May (JCC).

ZONE 5 PLAINES: SASKATCHEWAN, MANITOBA, NORTH DAKOTA, SOUTH DAKOTA, NEBRASKA, KANSAS. Coordinator: Richard C. Rosche (RCR). Contributors: Randall Baynes (RB, via ND), Jerri Cannon (JC, via CAE), Tom Cannon (TC, via CAE), Neil Dankert (ND, via RCR), David L. Eiler (DLE), Scott Ellis (SE), Charles A. Ely (CAE), Ronald R. Hooper (RRH), William H. Howe (WHH), Dina Jensen (DJe, via RCR), David Jenson (DJo, via ND), John C. Jordison (JCJ), Paul Klassen (PK), Jeremy Kuhn (JK, via CAE), Gary M. Marrone (GMM), Harold Nagel (HN, via ND), John S. Nordin (JSN), Paul A. Opler (PAO), Amy Pieper (AP, via RCR), Floyd W. Preston (FWP), June D. Preston (JDP), James Reiser (JR, via SMS), Marvin E. Rolfs (MERL, via CAE), Keith Roney (KR, via RRH), Dorothy J. Rosche (DJR), Mark E. Rosche (MERs), Marvin D. Schwilling (MDS, via CAE).

James A. Scott (JAS), Stephen M. Spomer (SMS), Ray E. Stanford (RES), Eric G. Unkenholz (EGU, via GMM), Rudolf A. Valerio (RAV). COUNTY, STATE (in caps.) = new county, state records. NORTH, SOUTH, EARLY, LATE, etc. (in caps.) are also considered unusual by the contributor and/or coordinator. Abbreviations: C.G.=Campground; coll=collected; co/co's=county/counties; Ft.=Fort; max=maximum; mi=mile/miles; Mts.=Mountains; N=north; NE=northeast; NW=northwest; Prov.=Provincial; S=south; SW=southwestern; S.P.=State Park; W=west.

SASKATCHEWAN. The season was very dry in the summer, and cool and wet in the autumn. Most lepidoptera were not plentiful. Provincial coordinator: RRH. Contributors: KR, RAV.

BUTTERFLIES: *Poanes hobomok*, Sturgeon Landing, NORTHEAST, 26 June (RRH). *Amblyscirtes oslari*, Val Marie, 13 June (RRH). *A. vialis*, Sturgeon Landing, NORTHEAST, 26 June (RRH). *Euphilotes enoptes ancilla*, 3 coll, Val Marie, 13 June (KR). *Glaucoopsyche lygdamus couperi*, Sturgeon Landing, NORTHEAST, 26 June (RRH). *Lycaeides melissa*, Sturgeon Landing, NORTHEAST, 26 June (RRH). *Agriades franklini lacustris*, W end of Nameu Lake near Sturgeon Landing, SOUTHEAST, 27 June (RRH). *Charidryas harrisii hanhami*, S of Arran, NORTH, 6 July (RRH). *Coenonympha inornata*, Sturgeon Landing, NORTHEAST, 28 June (RRH).

MOTHS: GEOMETRIDAE - *Phigalia titea*, Ft. Qu'Appelle, WEST, 5 May (RRH). NOTODONTIDAE - *Cerura scitiscrupta*, Kamsack, 2 July (RRH). NOCTUIDAE - *Phlogophora iris*, Bainbridge (north of Hudson Bay), among ostrich ferns, 28 June (RRH). *Chaetagnaea sericea*, Ft. Qu'Appelle, PROVINCIAL RECORD, 1 and 13 April (RRH). *Morissonia evicta*, Ft. Qu'Appelle, PROVINCIAL RECORD, 8 May (RRH). *Anaplectoides prasina*, Ft. Qu'Appelle, 25 July (RRH).

MANITOBA. Southwestern Manitoba had a dry spring, a dry, cool summer, and a wet, cool, cloudy autumn. The remainder of southern Manitoba had a "normal" spring, a very cool, cloudy summer, and a wet, cool, cloudy autumn. All records: PK.

BUTTERFLIES: *Erynnis martialis*, male, Sandilands Prov. Forest, rare in Manitoba, 17 May. *Hesperia leonardus*, uncommon, Whiteshell Prov. Park. *H. pawnee*, locally common in southwest. *H. dacotae*, locally common in a small area about 60 mi NW of Winnipeg, where it was first taken in 1982, NORTH, rarely taken in province. *Atrytone logan*, Culross, 12-17 July, and Spruce Woods Prov. Park, 21 July; only the second and third known provincial sites. *Euchloe ausonides*, fairly common, Sandilands Prov. Forest, 17 May. *Incisalia polios* and *I. niphon*, uncommon, Sandilands Prov. Forest, 17 May. *Vanessa cardui*, very scarce, only two seen all season. *V. atalanta*, common on 4 May, smaller numbers throughout the summer, and none in autumn; no migration noted in 1985; none seen in the province in 1984. *Erebia discoidalis*, uncommon, Sandilands Prov. Forest, 17 May. *Geneis uhleri varuna*, N of Elm Creek, EAST, 24-28 May. *O. alberta*, common at Carberry, 7 May when a number of dwarfs were taken; common at Pine Ridge, 14 May.

NORTH DAKOTA. A very early spring and a very dry June in the southwest, when many grasses were prematurely dry. Contributors: SE, FWP, JDP.

BUTTERFLIES: *Hesperia ottoe*, common, Little Missouri River Valley at Burning Coal Vein C.G., Slope Co, 9-11 July (FWP, JDP). *Polites origenes*, Burning Coal Vein C.G., Slope Co, 9-11 July (FWP, JDP). *P. mystic*, Killdeer Mts., DUNN Co, 11 July (SE). *Papilio bairdii*, Killdeer Mts., DUNN Co, 11 July (SE). *Hylolycaena hyllus*, Sweet Briar Lake, Morton Co, 11 July (FWP, JDP). *Chalceria rubidus longi*, males scarce, females common, Little Missouri River Valley, W of Burning Coal Vein, Slope Co, 9 July (FWP, JDP). *Satyrium acadica*, Sweet Briar Lake, Morton Co, 11 July (FWP, JDP). *Speyeria altantis*, Killdeer Mts., DUNN Co, fourth known county in state, 11 July (SE). *Boloria selene*, E slope Killdeer Mts., DUNN Co, 11 July (SE). *Satyrodes eurydice*, E slope Killdeer Mts., DUNN Co, 11 July (SE).

SOUTH DAKOTA. Very dry in the west, purportedly the worst drought in some 50 years through mid-summer. The season was 2-3 weeks early. Severe forest fires occurred in early July in the Black Hills. State Coordinator: GMM. Contributors: DLE, JSN, FWP, JDP, DJR, MERs, RCR, EGU.

BUTTERFLIES: *Yvretta rhesus*, Cottonwood, JACKSON Co, 7 May (GMM); 3 coll and 5 seen, Ardmore area, FALL RIVER Co, 16 May (RCR). *Atalopedes campestris*, 3 coll, Cascade Springs area, FALL RIVER Co, 15 June (RCR). *Poanes taxiles*, Ft. Meade, MEADE Co, fourth known county in state, 7 July (GMM). *Megathymus texanus leussleri*, about 100 seen and coll, Shep's Canyon, Fall River Co, 31 May (GMM, MERs); Oahe Dam, STANLEY Co, 9 June (GMM). *Ascia monuste*, BROWN Co, STATE, 26 May 1971 (JSN; specimen is in Smithsonian Institution as per PAO). *Colias alexandra krauthii*, coll, 2.5 mi W of Hot Springs, FALL RIVER Co, SOUTH, fourth known county in state, 4 July (DLE). *Zerene cesonia*, 1 mi S of Oahe Dam, STANLEY Co, WEST, fourth known county in state, 9 July (EGU). *Satyrium calanus*, Ft. Meade, MEADE Co, second known Black Hills county, 6 July (GMM). *Agraeides franklinii*, 1 female coll, 11 mi W of Custer, CUSTER Co, third known Black Hills county, 29 June 1983 (FWP, JDP). *Speyeria callippe*, a "big year"; 6 coll and seen, Cascade Springs area, FALL RIVER Co, 15 June (RCR); fairly common, Lawrence and Custer Co's, Black Hills, 2-4 July (DLE). *S. atlantis lurana*, abundant in Black Hills, 1-6 July (DLE, RCR); the silver-spotted, dark-disked form of *atlantis*, very common at Pringle, Custer Co, 4 July (DLE). *Charidryas acastus*, 3 mi S of Oahe Dam, STANLEY Co, EAST, third known county in state, 25 May (GMM). *Aglais milberti*, near Oahe Dam, STANLEY Co, 9 June (GMM). *Vanessa annabella*, tattered one, Ditch Creek C.G., Black Hills, PENNINGTON Co, STATE, 3 July (DLE; specimen in DLE collection).

MOTHS: GEOMETRIDAE - *Plataea trilinearia*, 3 coll, 10 mi W of Oelrichs, Fall River Co, 16 May (RCR). SPHINGIDAE - *Proserpinus juanita*, 2 coll, Cascade Springs area, Fall River Co, 15 June (RCR). *Hyles lineata*, 3 coll, Ardmore-Cascade Springs area, Fall River Co, 15 June (RCR).

NEBRASKA. Spring came very early in the western part, accompanied by severe drought, the worst in some 50 years. Most lepidoptera were two-three weeks early through mid-June; after that collecting was generally poor due to the dryness. Unusually early cold and snow in September ended the season somewhat prematurely. Severe forest fires occurred in early July in the Pine Ridge. Contributors: RB, ND, DLE, DJe, DJo, JcJ, HN, PAO, AP, JR, DJR, MERs, RCR, JAS, SMS, RES.

BUTTERFLIES: *Staphylus hayhurstii*, coll, Harlan Co Reservoir, HARLAN Co, WEST, 5 Aug 1983 (ND). *Erynnis juvenalis*, coll, Niobrara Valley Preserve, KEYS PAHA Co; known only from four counties, 17 May (ND). *E. baptisiae*, coll near Beatrice, GAGE Co, STATE, 16 Aug (ND, specimen in personal collection; verified by RES). *E. afranius*, coll, 10 mi NE of Hay Springs, SHERIDAN Co, EAST, 5 May (DJR); max 125, Sowbelly and Monroe Canyons, Sioux Co, 21 July (RCR, DJR). *Yvretta rhesus*, coll, 10 mi NE of Hay Springs, SHERIDAN Co, EAST, 5 May (DJR); 1-2 seen, Chadron areas, Dawes Co, 12 and 14 May (RCR). *Hesperia comma*, coll, Niobrara Valley Preserve, BROWN Co, EAST, 7 Sept (ND). *Polites mystic*, 2 coll, Niobrara Valley Preserve, BROWN Co, EAST, 27 June 1984 (ND). *Wallengrenia egeremet*, 11 coll, Niobrara Valley Preserve, BROWN and KEYS PAHA Co's., 19-21 July (ND); known from only five counties in state. *Pompeis verna*, coll, Ft. Calhoun, WASHINGTON Co, 14 June (SMS); 2 coll, Niobrara Valley Preserve, BROWN and KEYS PAHA Co's., WEST, 19 July (ND); known only from six counties. *Atrytone arogos*, 35 coll and seen, Chadron S.P., DAWES Co, WEST, 6 June (RCR, DJR); coll, near Lincoln, Lancaster Co, 9 Sept; first report of a second brood in state (SMS). *Poanes taxiles*, 10 coll, Niobrara Valley Preserve, KEYS PAHA and BROWN Co's., EAST, 19-20 July (HN, ND). *P. viator*, coll, 5 mi W of Whitman, GRANT Co, 5 July (DLE); third known county. *Euphyes dion*, coll, locality undetermined, HOLT Co, WEST, 6 July (SMS); coll, near Norfolk, STANTON Co, WEST, 15 July (SMS); second and third known counties. *E. conspicua*, coll, near

Norfolk, STANTON Co, WEST, 15 July (SMS); second known county. E. bimacula, coll, LINCOLN Co, 30 June (JAS); sixth known county. Amblyscirtes oslari, 2 coll, Niobrara Valley Preserve, BROWN Co, EAST, 5 June (ND). Megathymus texanus, 2 coll, Niobrara Valley Preserve, KEYS PAHA Co, 6 June (ND); 1 coll and 6 seen, Chadron S.P., DAWES Co, 6 June (DJR, RCR); coll, S of Gothenburg, DAWSON Co, 30 June (JAS); known from seven counties. Pontia sisymbrii nordini, coll, 10 mi NE of Hay Springs, SHERIDAN Co, EAST, 17 Apr (RCR). Nathalis iole, 1-38 seen on 15 dates between 27 Apr and 5 Oct, Rowe Sanctuary, BUFFALO Co, max on 13 Aug (ND). Mitoura siva, 20 seen, Niobrara Valley Preserve, BROWN Co, 19 May and 36 seen same area, KEYS PAHA Co, 6 June, EAST (ND). Glaucopsyche lygdamus, coll, Ash Hollow S.P., GARDEN Co, EAST, 19 May (RCR). Icaricia icarioides, 1 coll and 2 seen, 10 mi NE of Hay Springs, SHERIDAN Co, EAST, 2 June (DJR, RCR). Libytheana bachmani, Venango, PERKINS Co, 26 Aug (RES). Speyeria edwardsii, coll, Ash Hollow S.P., GARDEN Co, 19 May (RCR); 4-5 coll and seen, Merriman, CHERRY Co, 7 June (RCR); 9 seen and coll, Niobrara Valley Preserve, KEYS PAHA Co, 6 June (ND) and 12 coll and seen in same area, 7 June (RCR); this western species is now known from about the eastern limit of native Ponderosa Pine forest. Speyeria mormonia, coll, Sowbelly Canyon, Sioux Co, 10 Aug (SMS), first report in about 80 years. Thessalia fulvia, STATE; 1 coll 4 mi N of Axtell, KEARNEY Co, 16 June 1984 (ND); photographed; specimen in personal collection); 3 males coll, S of Gothenburg, DAWSON Co, 30 June (JAS; specimens in personal collection); there is an additional report for 4 July 1983, FRONTIER Co, but details are incomplete. Vanessa annabella, coll, 17 mi S of Hay Springs, SHERIDAN Co, 2 Aug (DJe); about fifth state report. Basilarchia weidemeyerii oberfoelli, coll, Niobrara Valley Preserve, BROWN Co, EAST, 1 June (ND); hybrid B. w. oberfoelli x B. a. astyanax, coll, Niobrara Valley Preserve, BROWN Co, 5 June (ND). Enodia anthedon, coll, Rowe Sanctuary, BUFFALO Co, WEST, 16 June (ND). Coenonympha inornata, coll, Niobrara Valley Preserve, KEYS PAHA Co, 17 May (ND); seventh known county in state.

MOTHS: COSSIDAE - Prionoxystus robinae, Indian Cave S.P., Nemaha Co, 22-23 June (JCJ); Buffalo Co, 10 July 1984 (ND). PYRALIDAE - Loxostege celeralis, major outbreak of hundreds of thousands, Dawes Co, 18 Apr to 10 May (RCR). LASIOCAMPIDAE - Tolyte vellela, 1-2 seen, 12 mi S of Chadron, Dawes Co, 10-19 Sept (RCR). T. distincta, 5-15 seen, 12 mi S of Chadron, Dawes Co, 19-23 Aug (RCR). Gloveria arizonensis, 12 mi S of Chadron, Dawes Co, occurred 2-10 July with max of 8 on 4 July (RCR). SATURNIIDAE - Coloradia pandora, 12 mi S of Chadron, Dawes Co, 23 July (EARLY) to 19 Sept (LATE), max 200 on 31 July (RCR); 1 coll, 17 mi S of Hay Springs, SHERIDAN Co, EAST, 4 Aug (DJe). Hemileuca nevadensis, larvae near Valentine, Cherry Co, 7 June, later reared on Saltix (JCJ). Automeris io, Indian Cave S.P., Nemaha Co, 22-23 June (JCJ). Actias luna, coll, Homestead National Monument, Gage Co, circa 1 June (RB, DJo); Indian Cave S.P., Nemaha Co, 22-23 June (JCJ). Hyalophora cecropia, more common in northwestern counties than in last four years, early May to early June (RCR). SPHINGIDAE - Ceratonia amvntor, coll, Brown Co, 7 June (ND). C. hageni, coll, Buffalo Co, 10 Aug 1984 (ND). Paratreia plebeja, coll, Buffalo Co, 23 Aug 1984 (ND). Sphinx vashti, coll, Harlan Co, 6 Aug 1983 (ND); coll, near Halsey, Thomas Co, 6 June (JCJ). S. drupiferarum, coll, Brown Co, 12 July 1984 (ND). Smerinthus jamaicensis, coll, near Halsey, Thomas Co, 6 June (JCJ). Paonias excaecatus, coll, near Halsey, Thomas Co, 6 June (JCJ). P. myops, coll, Indian Cave S.P., Nemaha Co, 22-23 June (JCJ). Loathoe juglandis, coll, Indian Cave S.P., Nemaha Co, 22-23 June (JCJ). Pachysphinx modesta, coll, Harlan Co, 6 Aug 1983 (ND). Hemaris thysbe, coll, Buffalo Co, 15 July (ND). Eumorphia pandorus, coll, Knox Co, 30 July 1983 (ND). Deidamia inscripta, coll, 12 mi S of Chadron, Dawes Co, 7 May (RCR); coll, near Halsey, Thomas Co, 6 June (JCJ); coll, Keys Paha Co, 18 June (ND). Amphion floridensis, coll, Brown Co, 3 June (ND). Proserpinus juanita, coll, 10 mi NE of Hay Springs, SHERIDAN Co, EAST, 5 May (EARLY) and 2 June (DJR, RCR). Darapsa myron, coll, Harlan Co, 6 Aug 1983 (ND). ARCTIIDAE - Haploa reversa, coll, Buffalo Co, 4 July (ND). H. lecontei, coll, Chadron area, Dawes Co, 14 and 21 June and 9 July (RCR); coll, Buffalo Co, 17 June (ND). NOCTUIDAE - Thysania zenobia, 12 mi S of Chadron, Dawes Co, 1 coll on 5 Sept, another seen Sept 19 (RCR). Ascalapha odorata, coll, Buffalo Co, 14 Sept (ND). Does the early Sept Gulf Coast hurricane explain the presence of the last two species far to the north? Argyrostromis anilis, 1 coll, Chadron, Dawes Co, 7 June (RCR). Catocala innubens, Columbus, Platte Co, 12 July (JCJ); Buffalo Co, 12 July (ND); Indian Cave S.P., Nemaha Co, 30-31 July (JCJ). C. piatrix, 30-31 July, C. epione, 22-23 June and 30-31 July, and C. serena, 30-31 July, all Indian Cave S.P., Nemaha Co (JCJ). C. angusi, Lincoln, Lancaster Co, 26 July (SMS). C. insolabilis and C. paleogama, Indian Cave S.P., Nemaha Co, 30-31 July (JCJ). C. nebulosa, Buffalo Co, 23 Aug 1984 (ND). C. subnata and C. neogama, Indian Cave S.P., Nemaha Co, 30-31 July (JCJ). C. ilia, Indian Cave S.P., Nemaha Co, 22-23 June and Columbus, Platte Co, 12 July (JCJ). C. meskei, Columbus, Platte Co, 12 July (JCJ). C. junctura, Indian Cave S.P., Nemaha Co, 30-31 July (JCJ). C. amatric, Buffalo Co, July 1984 (ND); Indian Cave S.P., Nemaha Co, 30-31 July (JCJ). C. illecta, Indian Cave S.P., Nemaha Co, 22-23 June and 30-31 July (JCJ). C. abbreviatella, Indian Cave S.P., Nemaha Co, 22-23 June (JCJ); Buffalo Co, 10 July 1984 (ND). C. whitneyi, 16 July 1984 and C. amestris, 17 July 1984, Buffalo Co (ND). C. coccinata, Indian Cave S.P., Nemaha Co, 22-23 June (JCJ). C. ultronia, Columbus, Platte Co, 12 July (JCJ); Buffalo Co, 17 July 1984 (ND). C. mira, Indian Cave S.P., Nemaha Co, 22-23 June and Columbus, Platte Co, 12 July (JCJ). C. micronympha, Buffalo Co, 9 July 1984 (ND).

KANSAS. The western part had drought most of the summer and the eastern part received much more rainfall than usual. The summer was not a good one for butterflies in general, the weather seeming to be unfavorable at critical times. Butterflies were spotty during a season that started early, then heavy frost and rain stopped activity. Again in Sept, when collecting was starting to get good, early frost brought activity to a halt. The last butterfly was seen on 8 Nov State Coordinator: CAE. Contributors: JC, TC, WHH, JK, MERL, MDS.

BUTTERFLIES: All records represented by specimens in Ft. Hays State University collection unless otherwise noted. Erynnis martialis, Pottawatomie Co, uncommon, 23 July (MDS). Hylephila phyleus, more common than usual (= common). Hesperia ottoe, RAWLINS Co, 15 June (MERL); CHEYENNE Co, 10 July (CAE); MORTON Co, 11 July (CAE); ELLIS Co, 22 July (JK). H. metea, at least 9 specimens, ELLIS Co, 28 Apr-19 May (JK). H. attalus, BUTLER Co, 29 Aug (MDS). Polites coras, more scarce than in the average year (= scarce). Poanes hobomok, PHILLIPS Co, 11 June (MERL); SMITH Co, 11 June (CAE); DECATUR Co, 14 June (CAE). Euphyes dion, NEOSHO Co, 20 June (TC); Linn Co, 6 Sept (MDS). Atrytonopsis hianna, ELLIS Co, 21-25 May (JK, MERL). Amblyscirtes oslari, at least 12 specimens, ELLIS Co, 19-24 May (JK, MERL). A. eos, 2 coll, MEADE Co, second state record, 14 Sept (CAE). A. belli, COWLEY Co, 29 Aug (MDS); ELK Co, 31 Aug (MDS). Lerodea eufala, common. Battus philenor, "hundreds seen all summer at Ottawa where they first appeared in May and produced several generations well into Sept; some years they do not appear at all" (WHH). Eurytides marcellus, common. Appias drusilla, DOUGLAS Co, 9 May (MDS); ELLIS Co, 17 June (JK). Falcapica midea, scarce. Phoebis sennae, scarce. Kricogonia lyside, OSBORNE Co, 21 Apr, VERY EARLY (JC, TC). Eurema mexicana, LYON Co, EAST, 14 July (MDS). Feniseca tarquinius, Crawford Co, 5 Sept (MDS), rare in state. Gaeides xanthoides, common. Harknlenus titus, common. Satyrrium calanus, common. S. liparops, DECATUR Co, 14 June (CAE). Incisalia henrici, common, found in 11 counties (MDS). Euristrymon ontario, Greenwood Co, 31 May (MDS), few state records. Brephidium exilis, scarce. Glaucopsyche lygdamus, RAWLINS Co, 22 May (CAE). Icaricia acmon, ELLIS Co, 8 Nov, the only one seen all season (CAE). Libytheana bachmani, scarce. Agraulis vanillae, see comments under B. philenor (WHH). Speyeria idalia, common. S. edwardsii, STANTON Co, 17 Sept (MERL), second state record. Thessalia fulvia, Comanche Co, 8 Aug, LATE (MERL); scarce elsewhere. Charidryas nycteis, RAWLINS Co, WEST, 15 June (CAE). Anthanassa texana, OSBORNE Co, 21 Apr, EARLY (JC, TC); MORRIS Co, 24 Aug (MDS). Phyciodes vesta, OSBORNE Co, 21 Apr, EARLY (JC, TC). Vanessa annabella, WICHITA Co, 27 Sept (MERL). Enodia anthedon, scarce.

ZONE 6 SOUTH CENTRAL: OKLAHOMA, TEXAS, ARKANSAS, LOUISIANA. Coordinator: Edward C. Knudson (ECK). Contributors: Vernon A. Brou (VB), Richard L. Brown (RB), James P. Fitter (JF), H.A. Freeman (HAF), James E. Gillaspay (JG), Chuck Harp (CH), David Hess (DH), John Kemmer (JK), Michael A. Rickard (MR), Pat & Susan Savage (PSS), Charles A. Sekerman (CS), Steve Williams (SW). COUNTY in CAPS indicates county record; STATE = state record, U.S. = U.S. record. Abbreviations; NP = National Park, SP = State Park, NWR = National Wildlife Refuge, WMA = Wildlife Management Area.

OKLAHOMA. Contributors: CH, ECK, MR, SW. CH submitted a detailed report on 41 species of butterflies and 50 species of moths, mainly from Luther, Oklahoma Co.; SW collected in SE Oklahoma in May and late Aug; ECK & MR collected in Leflore and McCurtain Co.'s. on Labor Day weekend.

BUTTERFLIES: *Achalarus lyciades*, Robber's Cave SP, Latimer Co., 27 Aug (SW); 5 miles east of Talimena SP, Leflore Co., 1 Sept (ECK). *Poanes zabulon*, P. yehl, *Amblyscirtes belli*, *A. aesculapius*, 7 miles north of Broken Bow, McCurtain Co., 1 Sept (ECK, MR). *Eurytides marcellus*, New Kirk, Kay Co., 12 Sept (CH). The following all from Luther, Oklahoma Co. (CH); *Euchloe olympia*, 4 Apr-8 May (larvae on *Thelypodium wrightii*); *Gaeides xanthoides dione*, 21 May-16 June; *Phaeostrymon alcestis*, 10-17 June; *Satyrium calanus falacer*, 8-16 June (larvae on *Carya texana*); *Incisalia henrici turneri*, 28 Mar-18 Apr (larvae on *Cornus drummondii*); *Charidryas gorgone carlota*, 11-16 Apr (ovipositing on *Erigeron divergens*). *Thessalia fulvia*, Alabaster Caverns SP, Woodward Co., 10, 11 Apr (CH). *Calephelis borealis*, 3 miles south of Big Cedar, LEFLORE Co., 31 Aug, STATE (ECK, MR). *Enodia portlandia missarkae*, Luther, OKLAHOMA Co., Apr, May, Aug (CH). *Enodia anthedon*, 3 miles S of Big Cedar, LEFLORE Co., 31 Aug, STATE, (ECK, MR).

MOTHS: (all coll by CH, Luther, Oklahoma Co., unless otherwise stated). SATURNIIDAE- *Hemileuca maia*, 2, 7 Nov. SPHINGIDAE- *Proserpinus guraeae*?, Edmund, Oklahoma Co. (CH). ARCTIIDAE- *Grammia anna*, 7-24 Oct (bait); *G. parthenice intermedia*, 4-28 Oct; *Eurythra phasma*, 4-22 Apr. NOCTUIDAE- 23 *Catocala* sp. reported by CH, including *C. piatrix*, 30 June-6 Aug; *C. consors*, 10, 13 June; *C. epione*, 8 June-7 July; *C. flebilis*, 16 Aug; *C. ulalume*, 10 July-9 Aug; *C. palaegama*, 13 July-18 Aug; *C. neogama loreta*, 24 June-8 Aug; *C. amatix*, 10 July-6 Aug; *C. amestris*, 1-11 June; *C. delilah*, 29 May; *C. coccinata*, 25 May-1 June; *C. alabamae*, 31 May-17 June; *C. titania*, 4-10 June; *C. mira*, 29 May-1 June; *C. jair*, 15 June. ECK noted *Catocala* very common in woods near Talimena SP, Leflore Co., on 1 Sept, with 10 species seen or collected, including *C. ulalume*, *C. vidua*, *C. lacrymosa*, *C. palaegama*, *C. cara carissima*. Also from Luther; *Argyrostromis quadrifilaris*, 2 Aug; *Agriopodes fallax*, 8-10 July; *Amphipyra pyramidoides*, 2 July-19 Aug; *Schinia bina*, 8 Aug; *S. lynx*, 10, 11 Aug.

TEXAS. Contributors: RB, HAF, JG, JK, ECK, MR, PSS, CS, SW. Most of Texas had a rather wet winter and spring, followed by a dry summer and fall, especially in the extreme south and west sections. The first William H. Cross Expedition (from Miss. State U.) was in Texas, May 12-16, in San Jacinto, San Patricio, and Kerr Co.'s (including 3 Lepidopterists). A Lepidoptera survey of Welder Wildlife Refuge, San Patricio Co., was published.

BUTTERFLIES: *Euphyes dukesi*, Martin Dies SP, JASPER Co., 17, 29 Aug; 5 miles north of New Boston, BOWIE Co., 31 Aug. *Euphyes dion*, *Poanes yehl*, south of Bivins, CASS Co., 30 Aug (ECK, MR). *Vidui perigenes*, 10 miles east of Brownsville, Cameron Co., 15, 16 Apr (CS). *Lerodea dysaules*, Brownsville, Cameron Co., 13 Oct (CS). *Amblyscirtes simius*, *A. oslari*, *A. texanae*, *A. nereus*, *A. eos*, Davis Mts., Jeff Davis Co., 10 Apr (CS). *Nyctelius nyctelius*, Lake Texana SP, VICTORIA Co., 10 Aug (SW). *Priamedes anchisiades idaeus*, near Medina Dam, MEDINA Co., 6 Oct (CS). *Anteos maerula*, Kendelton, FT. BEND Co., 10 Aug (SW). *Atlides halesus*, Houston, HARRIS Co., 3 Aug (SW). *Parrhasius m-album*, Houston, 10 July (SW). *Xamia xami*, 10 miles east of Brownsville, Cameron Co., 15, 16 Apr (CS). *Dryas iulia moderata*, New Braunfels, Comal Co., 7 Oct (CS). *Heliconius charitonius vasquezae*, near Medina Dam, MEDINA Co., 6 Oct (CS). *Marpesia chiron*, Madero, Hidalgo Co., 17 Oct (CS). *Asterocampa texana*, Round Top, Fayette Co., 4 July, approx. 150 observed on Ash tree and nearby building by SW.

MOTHS: All coll. and det. by ECK, unless otherwise indicated. INCURVARIIDAE- *Mesepiola specca*, Tom Mays Pk., EL PASO Co., 28 June, STATE (det. by Davis); *Adela caeruleella*, Daingerfield SP, MORRIS Co., 22 May. HELIOZELIDAE- *Antispila nyssaefoliella*, Daingerfield SP, MORRIS Co., 22 May, STATE. TINEIDAE- *Doleromorpha porphyria*, *Isocorypha mediostriatella*, Daingerfield SP, MORRIS Co., 1 Sept, STATE (det. Davis); "Mea" *bipunctella*, *Scardia approximata*, *Pracedes atomosella*, Martin Dies SP, 17 Aug, STATE (det. Davis). LYONETIIDAE- *Bedellia minor*, *Bucculatrix kimballi*, Bellaire, HARRIS Co., 16 Sept; *Bucculatrix sororcula*, *B. sphaeralceae*, Big Bend NP, BREWSTER Co., 30 Nov. GRACILLARIIDAE- *Parectopa robinella*, Martin Dies SP, 9 Aug, STATE (det. Davis); *Chrysaster ostensackenella*, Gene Howe WMA, HEMPHILL Co., 18 May & Caddo Lake SP, HARRISON Co., 18 Aug, STATE. OECOPHORIDAE- *Eupragia hospita*, Sam Houston Nat'l. Forest, SAN JACINTO Co., 12 May (RB) & Martin Dies SP, JASPER Co., 9 Aug, STATE; *Idioglossa miraculosa*, Martin Dies SP, JASPER Co., 13 Oct, STATE. COLEOPHORIDAE- *Batrachedra scitator*, *B. hagefer*, Big Bend NP, BREWSTER Co., 30 Nov., STATE; *B. decolor*, Belliare, HARRIS Co., 6 May, STATE (det. Hodges); *Duospina trichella*, *Homaledra sabalella*, Martin Dies SP, JASPER Co., 13 Oct, STATE. COSMOPTERIGIDAE- *Cosmopterix chalybaeella*, Welder Wildlife Refuge, SAN PATRICIO Co., 14-19 July (JG); *C. gemmiferella*, Bellaire, HARRIS Co., 5 May, STATE; *Stagmatophora wyattella*, Caddo Lake SP, HARRISON Co., 29 Aug, STATE; *Pyroderces albistrigella*, Martin Dies SP, JASPER Co., 13 Oct, STATE. CARPOSINIDAE- *Carposina simulator*, *C. biloba*, Martin Dies SP, JASPER Co., 17 Aug, STATE. TORTRICIDAE- *Endopiza liriodendrana*, *E. cyclopiana*, *Endothenia microptera*, Martin Dies SP, JASPER Co., 9 Aug, STATE; *Endothenia impudens*, *Petrova houseri*, Daingerfield SP, MORRIS Co., 22 Apr, STATE (det. W.E. Miller); *Pelochrista argenteana*, Lake Meredith, POTTER Co., 23 June, STATE; *Argyrotaenia alisellana*, Daingerfield SP, MORRIS Co., 22 Apr, STATE; *Sparganothis bistriata*, Caddo Lake SP, HARRISON Co., 18 Aug, STATE. PYRALIDAE- *Dichozoma parvicta*, Tom Mays Pk., EL PASO Co., 28 June, STATE; *Sitochroa chortalis*, Gene Howe WMA, HEMPHILL Co., 18 May, STATE; *Pyrausta napaealis*, Garner SP, UVALDE Co., 25 Mar., STATE; *Microcrambus biguttellus*, Martin Dies SP, JASPER Co., 13 Oct, STATE; *Platytes vobisne*, Gene Howe WMA, HEMPHILL Co., 18 May, STATE (det. Munroe). GEOMETRIDAE- *Nepterota obliuiscata*, Tom Mays Pk., EL PASO Co., 28 June, STATE; *Ceratonyx satanaria*, Brazos Bend SP, FT. BEND Co., 26 Feb; *Caripeta aretaria*, Daingerfield SP, MORRIS Co., 22 Apr; *Scopula ordinata*, Martin Dies SP, 13 Oct, STATE. SATURNIIDAE- *Hemileuca chinatiensis*, nr. Van Horn, Culberson Co., 5 Oct, (PSS). SPHINGIDAE- *Isoparce cupressi*, Caddo Lake SP, HARRISON Co., 18 Aug; *Erinyis alope*, 2 miles east of Henly, HAYS Co., 24 Oct (JK). NOCTUIDAE- *Macrochilo litophora*, Martin Dies SP, JASPER Co., 17 Aug, STATE; *Chytolita morbidalis*, Gene Howe WMA, HEMPHILL Co., 18 May, STATE. As seemed to be the case elsewhere in the SE U.S., *Catocala* were exceptionally abundant in Texas this year; ECK recorded 30 sp. state wide, with 16 sp. taken in one night (at UV light) in Abilene SP, 22 June; Best were *C. luciana*, Lake Meredith, POTTER Co., 23 June, STATE; *C. fredercki*, Santa Anna, Coleman Co., 19 May; *C. herodias*, Kerrville SP, Kerr Co., 16 May and Abilene SP, TAYLOR Co., 22 June (worn); *C. jair*, Abilene SP, TAYLOR Co., 22 June; HAF recorded 25 *Catocala* sp. from Garland, DALLAS Co. (11 May-20 Oct), including *C. dejecta*, *C. insolabilis*, *C. junctura*, *C. cara carissima*, *C. mira dana*, *C. titania*, which were new for the area; JK took 1500 *Catocala* in Hays Co., including *C. delilah desdemona*, *C. consors*, *C. herodias*, *C. neogama loreta*, *C. verrilliana*; Other Noctuids include *Oligia modica*, *Papaipema stenocelis*, Caddo Lake SP, HARRISON Co., 18 Aug, STATE; *Stibadium caesium*, Welder Wildlife Refuge, San Patricio Co., 14, 15 Sept (50+ taken by ECK&JG); *Polia detracta*, Daingerfield SP, MORRIS Co., 22 Apr, STATE; *Xestia adela*, Gene Howe WMA, HEMPHILL Co., 18 May, STATE; *Protolampra brunneicollis*, *Rhynchagrotis cupida*, Daingerfield SP, MORRIS Co., 1 Sept, STATE.

ERRATA IN 1985 SEASON SUMMARY: Latebraria amphipyroides, reported from Santa Ana NWR (Tom Kral), was misidentified. The specimen was sent to ECK, and proved to be Letis xyli. L. amphipyroides is not known to occur in Texas.

ARKANSAS. Contributors: JF,DH,SW. JF submitted a list from Scott Co. (1981), including 14 Co. records, DH submitted a list of 27 species, all new Co. records; SW sent a list of 31 species, many probably new Co. records.

BUTTERFLIES: Epargyreus clarus, Forrest City, ST. FRANCIS Co., 31 Aug (SW). Achalarus lyciades, Erynnis baptisiae, STONE Co., 19 June (DH). Atrytone delaware, Poanes hobomok, CLEBURNE Co., 19 June (DH). Heraclides crespontes, INDEPENDENCE Co., 16 June (DH); Mena, POLK Co. (SW). Pterourus glaucus, reported from POLK, SCOTT, INDEPENDENCE, SHARP, & CLEBURNE Co's (JF,DH,SW). Eurema daira, Forrest City, ST. FRANCIS Co., 31 Aug (SW). Abaeis nicippe, CLEBURNE, IZARD Co's (DH), POLK Co. (SW). Feniseca tarquinius, Clarksville, JOHNSON Co., 29 Aug (SW). Harkenclenus titus mopsus, CLEBURNE, STONE Co's 17-19 June (DH). Satyrium calanus falacer, SCOTT Co., 20 June 1981 (JF). Celastrina ladon, CLEBURNE, STONE Co's., 16-19 June (DH). Libytheana bachmani, CLEBURNE, STONE Co's. (DH); Mena, POLK Co., 20 May (SW). Speyeria cybele, STONE, IZARD, FULTON, INDEPENDENCE, CLEBURNE Co's., 16-19 June (DH); Benton, SALINE Co. (SW). Asterocampa celtis, Mena, POLK Co. (SW). Cylopsis gemma, Lost Valley Forest Park, NEWTON Co. (SW). Megisto cymela cymela, SCOTT Co., 20 June 1981 (JF); FULTON Co., June (DH). Cercyonis pegala texana?, Fairfield Bay, CLEBURNE Co., 16-19 June (DH).

MOTHS: GEOMETRIDAE- Euchlaena tigrinaria, Mammoth Spring (Co.?), 29 Aug (SW), Haematopsis grataria, Lost Valley Forest Park, NEWTON Co., 28 Aug (SW). NOCTUIDAE- Catocala vidua, Forrest City, St. Francis Co., 30 Aug (SW); Catocala palaeogama, Fairfield Bay, CLEBURNE Co., 17-19 June (DH).

LOUISIANA. Contributor: VB. VB noted record numbers of Catocala and SPHINGIDAE (31 species collected). He submitted the following list of NEW STATE RECORDS (localities and dates not given).

MOTHS: CHOREUTIDAE- Prochoreutis inflatella. PYRALIDAE- Stegia eripalis, Lipocosma sicalis, Loxocrambus canellus, Welderella parvella, Peoria opacella. ARCTIIDAE- Neoplynes eudora, Grammia parthenice intermedia. NOCTUIDAE- Gabara gigantea, Litoprosopus confligens, Catocala orba, Tarachidia phecolisca, Eucirroedia pampina, Epiglaea decliva, Feltia geniculata, Feltia jaculifera, Agrotis venerabilis, Rhodoecia aurantiago, Schinia tanena, Schinia citrinella.



ZONE 1 ONTARIO/QUEBEC. Coordinator: R.A. Layberry (RL). Contributors: P. Bondy, B. Bracken (BB), J.A. Brown (JB), G. Clemens (GC), G.J. van Dorsser (GVD), N.G. Escott, W.J.D. Eberlie (WJE), W.M. Edmunds (WME), M. Gartshore, P. Hall (PH), B. Harrison (BH), Q. Heas (QH), T. Hince (TH), J. Holliday (JH), T.T. Ikeda (TI), J. Kamstra (JK), J.D. Lafontaine (JL), K. Mikkola (KM), P.D. Pratt, J. Prideaux (JP), A.J. Ryff, M. Runtz (MR), R. Scott, D.A. Sutherland, I. Trigg (IT), A. Wormington (AW). COUNTY in caps indicates County record, EARLY and LATE indicate date records.

ONTARIO. BUTTERFLIES: Epargyreus clarus, Pt. Pelee, Essex Co., May 26, EARLY record (AW); larvae on Groundnut, Apios americana, at Lower Duck Island, Carleton Co., Aug 18; Petrie Island, Russell Co., Aug 24 (RL). Erynnis brizo, Burnley, Northumberland Co., June 9 (WJE). Erynnis martialis, Burnt Lands, Carleton/Lanark County line, May 18 (RL). Thymelicus lineola, abundant at Sioux Lookout, Kenora Distr., July 10-26 (JP). Polites themistocles, Leamington, Essex Co., Aug 25, second brood? (AW). Pompeius verna, Toronto, July 11 (WME). Atrytone logan, Wasaga Beach, SIMCOE Co., July 14 (TI); Markham, York Co., July 24, one caught by immature Ambush-bug (WME). Poanes massasoit, Lighthouse Point, July 11 (QH); 2 km SE of Belmont, ELGIN Co., Aug 3 (AW). Euphyes dion, abundant at Winchester Springs, Dundas Co., July 7, and few at Woodlawn, CARLETON Co., July 13 (PH, BB); Burford Twp., BRANT Co., July 11 (QH). Euphyes bimacula, Wasaga Beach, SIMCOE Co., July 14 (TI). Amblyscirtes hegon, many at Barnum Lake, Haliburton Co., June 30 (PH); 10 km N of New Liskeard, Temiscaming Dist., June 28 (QH). Amblyscirtes vialis, Potholes Provincial Nature Reserve, Algoma Dist., June 19 (JK); Sioux Lookout, Kenora Dist., July 10-26 (JP); Mountain Twp, DUNDAS Co., June 10 (RL). Battus philenor, Pt. Pelee, Essex Co., July 21, twelve seen, THIRD RECORD (AW). Papilio polyxenes, Clarence Twp., Russell Co., Aug 24, 2 5th-instar larvae eating only flowers of deadly Water Hemlock, Cicuta maculata; both pupated Aug 29 (RL). Heraclides crespontes, Walpole Island, Lambton Co., July 9 (AW,MR). Euchloe olympia, Ipperwash, April 21 (GC); Constance Bay Sandhills, Carleton Co., June 9, 7 2nd-to-4th-instar larvae on Arabis divaricarpa (RL). Colias philodice, Dows Lake, Ottawa, Nov 1, LATE (BB). Colias eurytheme, Long Sault Parkway, Stormont Co., Nov 2, LATE (BB); Sioux Lookout, Kenora Dist., July 10-26 (JP). Phoebis sennae, Port Credit, York Co., Sept 2, NORTHEAST (PH). Pyrisitia lisa, Pt. Pelee, Essex Co., July 1; Lighthouse Point, Essex Co., July 18 (AW); Feniseca tarquinius, 2 larvae, Cramahe Twp., NORTHUMBERLAND Co., Sept. 9 (WJE). Epidemia epixanthe, Alfred Bog, Prescott Co., July 12 (BB). Epidemia dorcas, Thunder Bay, Thunder Bay Dist., July 22-Aug 3 (IT). Satyrium edwardsi, Toronto, July 8, 17 (WME); Pinery, Lambton Co., July 7 (GC); Mitoura gryneus, Pt. Pelee, Essex Co., June 26 (JB). Incisalia polios, Ipperwash, April 21 (GC). Clossiana frigga, 25 km W of Cochrane, Cochrane Dist., June 21 (QH). Phyciodes batesii, 2 km N of Bracebridge, Muskoka Co., June 15, 27; 10 km N of New Liskeard, Temiscaming Dist., July 1 (QH); 20 km W of Cochrane, Cochrane Dist., July 10 (TI). Charidryas harrisii, Thunder Bay, Thunder Bay Dist., July 1, Aug 3 (IT). Polygonia satyrus, Thunder Bay, Thunder Bay Dist., June 19-24, Aug 3, 16 (IT). Polygonia faunus, Moose Factory, Cochrane Dist., Oct 11, 1984 (AW). Polygonia progne, Downtown Ottawa, Oct. 21, LATE (RL). Nymphalis vau-album, Thunder Bay, Thunder Bay Dist., April 28, two in copula (IT); Toronto, March 23, EARLY (WME). Nymphalis antiopa, Britannia, Carleton Co., Nov 3, LATE (BB). Asterocampa clyton, West Moraviantown Woods, KENT Co., July 3 (AW). Cercyonis pegala, Thunder Bay, Thunder Bay Dist., June 10-Aug 6 (IT). Oeneis chryxus, Richie Falls, Haliburton Co., June 1 (BH). Danaus plexippus, Ottawa, May 30, EARLY (PH); Long Sault Parkway, Stormont Co., Nov 2, LATE (BB).

MIGRANTS: Good year for all except Vanessa cardui. At Pt. Pelee, May 11-12, the migration was roughly 50% V. atalanta, 25% V. virginienis, 25% P. interrogationis. H. crespontes and P. troilus were seen, about 10-15 per day (JL). A tremendous migration of V. atalanta plus a few V. virginienis passed through the Ottawa area May 11-13, but no more than the usual number stayed here (RL). D. plexippus was migrating south early, peaking in Coborg area, Northumberland Co., Aug 14 (WJE), but many were seen in the Ottawa area in Oct. Almost 200 were seen in a field near South March, Carleton Co., on Oct. 17 (JH). Last Ottawa record was Oct 25 (RL).

MOTHS: SPHINGIDAE - Manduca sexta, Cedar Creek, Essex Co., Sept 1, 19, 20 (AW); Sphecedina abbottii, Peterborough, Peterborough Co., April 24 (GVD); Ceratonia catalpa, Southeast Shoal, Essex Co., Sept 7, THIRD CANADIAN record, (AW); Hyles gallii, Point Pelee, Essex Co., July 12, 1984 (AW). NOCTUIDAE - Acrionicta pruni, Cedar Creek, Essex Co., Sept 19 (AW); Acrionicta interrupta, Peterborough, July 5 (GVD); Heliothis zea, Southeast Shoal, Sept 6, Oct 9, 14 (AW); Apamea inordinata, Peterborough, Sept 30 (GVD); Anticarsia gemmatalis, Southeast Shoal, Oct 14 (AW); Catocala serena, Cedar Creek, Essex Co., July 24, Aug 30, Sept 2 (AW); Plathypena scabra, Southeast Shoal, Aug 14 (AW); Abagrotis barnesi, Presqu'ile, Northumberland Co., mid-late July, FIRST ONTARIO record (KM); Papaipema speciosissima, Several locations in Eastern Ontario, including Kingston, Frontenac Co., NORTHERN (JL). LYMANTRIDAE - Lymantria dispar,

Peterborough Co., Aug 1 (GVD). YPONOMEUTIDAE - Atteva punctella, Cedar Creek, Essex Co., Sept 19, Southeast Shoal, Oct 13 (AW). Note:- Southeast Shoal is a Lightstation in Lake Erie, 6 miles SSE of the tip of Point Pelee.

QUEBEC. BUTTERFLIES: Erynnis lucilius, Lac Dodds, Papineau Co., Aug 5. Hesperia leonardus, Gull Lake, Papineau Co., Aug 17. Peniseca tarquinius, Lac Dodds, Papineau Co., Aug 5. Charidryas harrisii, Gatineau Park, July 1, Farrelton, Gatineau Co., July 1; larvae on Aster umbellatus, Lac Plombagine, Hull Co., Aug 5; Glen Almond, Papineau Co., Aug 5. Euphydryas phaeton, Gatineau Park, July 1; Lac St. Germain, Gatineau Co., July 1; larvae on Chelone glabra, Lac Plombagine, Hull Co., Aug 5. Basilarchia archippus, Ramsay Lake, Gatineau Park, Aug 4, SECOND record for the Park (RL).

MOTHS: NOCTUIDAE - Eudocima materna, St-Gerard-de-Laurentides, north of Quebec City, Sept 18. One specimen, slightly worn, caught by Mme. Forget, presently in the collection of Mike Pratte. First record north of Florida, undoubtedly blown north by Hurricane ????? of a few days earlier (JL).



ZONE 8 MIDWEST: MISSOURI, KENTUCKY, WEST VIRGINIA, OHIO, INDIANA, ILLINOIS, IOWA, MINNESOTA, WISCONSIN, MICHIGAN. Coordinator: M. C. Nielsen (MN). Contributors: C. Adams (CA), V. Albu (VA), T. Allen (TA), W. Babcock (WB), G. Balogh (GB), J. Calhoun (JC), L. Crabo (LC), C. Covell (CC), D. Eiler (DE), L. Ferge (LF), J. Fitter (JF), D. Flaim (DF), L. Gibson (LG), R. Henderson (RH), T. Herig (TH via MN), D. Hess (DH), G. Holbach (GH), J. Hooper (JH), D. Iftner (DI), J. Jordison (JJ), L. Koehn (LK), I. Leew (IL), R. Leuschner (RL), V. Lucas (VL), L. Martin (LM), R. Mattingly (RM), M. McInnis (MM), E. Metzler (EM), W. Miller (WM), J. Mouw (JM), S. Mueller (SM), J. Nordin (JN via CC), J. Parkinson (JP), D. Parshall (DP), H. Pavulaan (HP), J.W. Peacock (JWP), J. Perona (JP via MN), F.&J. Preston (F/JP), J. Riddlebarger (JR), R. Rings (RR), J. Scott (JS), Y. Sedman (YS), J.A. Shuey (JAS), E. Shull (ES), S. Teraguchi (ST), R. Watkins (RW), W. Westrate (WW), J.R. Wiker (JRW), J. Wilkie (JW), J.H. Wilterding (JHW), D. Wright (DW). GENERAL COMMENTS: It was a year of cooler and wetter weather throughout most of the Zone; yet, there were more collectors than ever before, combing the zone for voucher specimens in 'seldom-collected' areas for the confirmation of old or questionable species, and for the challenge of adding new and 'choice' species to collections. Consequently, it was one of the best years for the zone in new state, county and significant range extension records! Many more reported moths than before, giving hope that the Summary will continue to be more balanced. A few southern species made their way north in some areas: E. communis, H. phyleus, E. claudia, V. atalanta 'exploded' in most of the area, but D. plexippus was still down in numbers. E. protodice appeared in many areas after years of scarcity. Nomenclature and arrangement per 'Hodges'; All new county and state records are capitalized. Range extensions indicated by NORTH, etc. Pk = Park. UV = ultraviolet light.

MISSOURI. Three brief reports covered 25 May-20 June. Balogh observed unusual early flights of Catocala during 27 May-6 June.

BUTTERFLIES: A. cellus, 27,28 May, Cape Girardeau Co (GB); P. byssus, 6,7 June, Barry Co (GB); E. dukesi, 1 June, Stoddard Co, nectaring on Asclepias perennis (GB); P. joanae, F. tarquinius, 5 June, Reynolds Co (JRW); E. ontario, 25 May, Franklin Co (GB); C. borealis, 7 June, Barry Co (GB); E. phaeton ozarkae, 2-5 June, Reynolds Co (JRW).

MOTHS: Inguromorpha basalis, 1 June, Stoddard Co; Itame abruptata, 29 May-4 June, Carter Co; Idaea scintillularia, 28 May-5 June, Mississippi, Wayne Cos; Eulithis molliculata, 29 May-7 June, Barry, Carter Cos; C. illecta, 1-6 June, Barry, Carter, Stoddard, Wayne Cos; C. dulciola, 29 May-5 June, Carter, Wayne Cos (2 at bait); C. clintoni, 27 May-5 June, Cape Girardeau, Carter, Wayne Cos; Derrima stellata, 31 May, Stoddard Co, (all GB).

KENTUCKY. Covell, summarizing for others, sent a detailed account covering 15 March to 10 Nov; he reported a severe winter with moderately heavy snow in Jan and 16 degrees below zero, which caused magnolias to lose leaves and serious injury to other leafy shrubs. Despite this, the SKL members continued to add to the state's faunal list--probably the highest in the Zone.

BUTTERFLIES: E. baptisiae, 17 Aug-6 Sept, Bullitt, Hopkins Cos (CC); S. hayhurstii, 15 May, Jefferson Co (CC); N. lherminier, 7 Sept, Fulton Co (LG); E. dion, 7 Sept, Fulton Co (2 o nectaring on Eupatorium, CC); A. hegon, 4 May, Bracken Co (DW, LG); A. belli, 4 May, Bracken Co (DW); A. hianna, 13 May, BULLITT, Meade Cos (LG); P. trolus, ♂ blue fm (HP), 13 Apr, Powell Co; A. virginianensis, A. midea, 4-19 Apr, Bullitt Co (CC, DF, RM); C. cecrops, 7 Sept, Fulton Co (DW); P. m-album, 23 June, Lexington (JN); C. ebenina, 4-18 Apr, Bullitt Co (CC, DF, RM); C. gemma, 19 Apr, Bullitt Co (CC).

MOTHS: Sthenopsis auratus, 15 June, Red R. Gorge (RRG), STATE (JN); Heliomata cycladata, Glena plumosaria, Euchlaena pectinaria, Scopula limboundata, 13 May, Oldham Co (CC); Dysstroma truncata, 8 June, HARLAN Co, STATE (RH); I. cupressi, 6 Sept, FULTON Co, STATE (CC); S. frankii, P. astylus, 9-14 July, Powell Co (LG, DW); S. badia, 5 June, Boone Co (DW); C. ulalume, 14 July, Powell Co (DW); C. illecta minuta, 20 June, Boone Co (DW); A. ovalis, 19 July, RRG (JN); P. buffaloensis, 6 Sept, Fulton Co (CC); P. iris, 8 June, HARLAN Co, STATE (DW); C. triangulifer, 6 Sept, Hopkins Co (CC); M. picta, 9 May, Boone Co (DW); S. gloriosa, 20 July, MEADE Co, 2nd state (RH).

WEST VIRGINIA. Allen reported 285 new county butterfly records, including one state record, with the state's butterfly fauna now at 120 species. Fitter recorded 12 new butterflies for Hardy Co, including a melanic Speyeria similar to one illustrated in NEWS No. 6, 1981.

BUTTERFLIES: A. lyciades, 24-30 May, GRANT, LEWIS Cos (TA); E. lucilius, 6 May, 29 July, GRANT Co (TA); S. hayhurstii, 26 July, Harper's Ferry JEFFERSON Co, STATE (TA); H. leonardus, 10 Sept, Hardy Co (JF); H. metea, 6 May, GRANT, PENDLETON Cos (TA); A. hianna, 31 May, LEWIS Co (TA); C. interior, 29 June, Tucker Co, part melanic ♂ with blk viens & dusting on dorsal (HP); H. titus mopsus, 11 July, HARDY Co (JF); M. gryneus, 5 May, Pendleton Co (HP); I. augustus, 25 Apr-5 May, HARDY, Pendleton Cos (TA, HP); I. h. henrici, n. niphon, 5 May, Pendleton Co (HP); E. laeta, 6-9 May, POCAHONTAS, SUMMERS Cos (TA); C. ladon fm. marginata, 14 Apr, Summers Co, unusual for WV (HP); C. lygdamus, 25 Apr, MINERAL, Pendleton Cos (TA, HP); L. bachmanii, 29 July, Pendleton Co (TA); J. coenia, 9 June-19 July, RANDOLPH CO (TA); S. appalachia ssp., 18 July, POCAHONTAS CO (TA).

OHIO. This was the first year of the OHIO Survey of Lepidoptera, sponsored by the Ohio Lepidopterists, which resulted in detailed reports, representing records of 19 contributors--the BEST for the Zone! Calhoun found the spring species appearing at least 2 weeks earlier than last year. April temps. reached into the 90's in southern Ohio. C. neglecta-major was found in many new areas, and to be more common than previously believed. Irregular species such as P. communis, and P. protodice were found locally. Lucas stated NE OHIO saw one of the earliest springs on record after a relatively mild winter. Some species were on the wing as early as mid-April. Summer was dry and hot, progressing into a "normal" fall, with fall noctuids up over past years. Lucas witnessed a migration of D. plexippus on 11 Sept on the Lk Erie shore in Cuyahoga Co, with individuals counted every 8-10 sec. for nearly one hour, flying south, low, over the lake. Parshall found E. icelus abundant in entire eastern OHIO, while E. brizo was almost absent.

BUTTERFLIES: *A. cellus*, 26 May, 4 Aug, GALLIA Co (JC, JR); *S. hayhurstii*, 25 May, WARREN Co (DW); *E. baptisiae*, 25 Aug-8 Sept, GALLIA, PERRY Cos (JC); *P. communis*, 10 Aug-9 Oct, FAYETTE, GALLIA Cos (JC); *N. lherminier*, 27 May, MEIGS Co (JC); *H. phyleus*, 5-29 Sept, GALLIA, GREENE, MEIGS Cos (JC, DW); *H. leonardus*, 25 Aug, PERRY Co (JC); *P. mystic*, 2-9 June, HENRY, ROSS Cos (JC, JAS); *A. campestris*, 24 Oct, DELAWARE Co (JWP); *E. dion*, 7-18 July, MADISON, WYANDOT Cos (JC, JAS); *E. conspicua*, 7 July, COLUMBIANA Co (JAS); *E. bimacula*, 9-16 June, LOGAN, ROSS Cos (JD, CI, JAS); *A. hianna*, 4-19 May, GALLIA, JACKSON Cos (JC, RW); *A. hegon*, 4-26 May, PREBLE, Vinton Cos (VA, DP); *P. protodice*, 17 Aug, Wood Co (JC); *F. midea*, 20 Apr, Washington Co (VL); *E. lisa*, 4-17 Aug, FAYETTE, GALLIA, WOOD Cos (JC); *N. iole*, 19 July, LOGAN Co (DP); *E. ontario*, 6-20 June, CLARK, UNION Cos (DP, JAS); *P. m-album*, 6 June, LOGAN Co (DP); *C. neglecta-major*, 28 Apr-4 May, GALLIA, LAWRENCE, SCIOTA Cos (JC); *C. ebenina*, 21 Apr-4 May, GALLIA, SCIOTA Cos (JC); *C. lygdamus*, 21 Apr, SCIOTA Co (JC); *C. muticum*, 31 July-7 Aug, Logan Co (JC, JAS); *N. vau-album*, 21 Sept, HURON Co (JWP); *A. milberti*, 24 Mar-25 May, HOCKING, WARREN Cos (JR, DW); *P. progne*, 6 June, UNION Co (DP); *S. appalachia* ssp., 20 June, CLARK Co (JAS); *C. gemma*, 20 Apr, Gallia Co (JC); *H. sosybius*, 4 May, 4 Aug, Gallia Co (JC, JR).

MOTHS: *Sthenopis argenteomaculatus*, 2 June, COLUMBIANA Co (VL); *Tortricidia testacea*, 14 May, Ashtabula Co (VL); *Parapovynx curviferalis*, 31 Aug, Cuyahoga Co, det by Ferguson (VL); *Pyrausta bicoloralis*, 18 Sept, Erie Co (VL); *Udea rubigalis*, 14 May-23 Nov, Ashtabula, Cuyahoga Cos (VL); *Apogeshna stenialis*, 29 June, Portage Co, det by Hodges (VL); *Drepana arcuata*, 14 May, Ashtabula Co (VL); *Oreta rosea*, 13 Aug, Cuyahoga Co (VL); *Itame coortaria*, 28, 29 June, Franklin Co (VL); *Semiothisa granitata*, 14 May, Lucas Co (VL); *Glennia cribrataria*, 18 May, Hocking Co (VL); *Dysstroma hersiliata*, 2 June (taking salts from riverbank), *Eupaphe mendica*, *Lacosoma chiridota*, 2 June, Columbiana Co (VL); *D. inscripta*, 14 May, ASHTABULA Co (VL); *M. rustica*, 27 June, BROWN Co, 4th state (VL); *H. diffinis*, 4 Sept, Lawrence Co, taken by a crab spider, *Misumena vatia* (VL); *C. inclusa*, *S. badia*, 14 May, Ashtabula Co (VL); *Cisthene packardii*, 3 Sept, MONROE Co (VL); *U. ornatrix* (phenotype), 18 Sept, ERIE Co, STATE, det by Ferguson (VL); *I. majoralis*, 10 July, Geauga Co (LK); *P. pyramusalis*, 14 May, Ashtabula Co (VL); *Argusa latiorella*, 16 Aug, SCIOTA Co, STATE (EM); *Anticarsia gemmatalis*, 15 Oct, Cuyahoga Co (VL); *C. unijuga*, 18 Sept, Erie Co (VL); *C. illecta*, 28, 29 June, Franklin Co (VL); *A. ovalis*, 5, 6 May, SCIOTA Co (JH); *A. oxygramma*, 18 Sept, ERIE Co (VL); *T. quadrifera*, 28 June, FRANKLIN Co (EM); *A. exilis*, 23 Aug, WARREN Co (DW); *M. diversicolor*, 10 Sept, Cuyahoga Co (VL); *H. enervata*, 23 July, ERIE Co, STATE, det by Franclemont & Lafontaine (EM); *P. astuta*, 17 Aug, SCIOTA Co, STATE, det by MN (EM); *P. speciosissima*, 18 Sept, GEAUGA Co, STATE (RR); *P. nepheleptena*, 23 Sept, CHAMPAIGN Co (RR); *P. circumlucens*, *cerussata*, 18 Sept, ERIE Co (VL); *E. mephisto*, 21 June, GEAUGA Co, STATE (LK); *C. cordata*, 21 June, GEAUGA Co (RR); *A. puta*, 20 Sept, GEAUGA Co, STATE (LK); *E. algens*, 24 July, GEAUGA Co, STATE (JB); *F. comstocki*, 5 May, COLUMBIANA Co (RR); *O. saundersiana*, 18 Sept, ERIE Co (VL); *C. lunula*, 14 May, ASHTABULA Co, STATE, det by Poole (VL); *C. intermedia*, 7 Sept, GEAUGA Co, STATE (LK); *S. congermana*, 5, 6 May, SCIOTA Co, 2nd state (JH, WB); *P. nimbosea*, 11 July, COLUMBIANA Co, STATE (RR); *P. imbrifera*, 9 June-3 July, GEAUGA Co, STATE (ST); *F. rubripennis*, 22 July, ERIE Co, 2nd state (EM); *L. linita*, 14 May, ASHTABULA Co, STATE (VL); *E. bostoniensis*, 18 Sept, ERIE Co, (VL); *D. jucunda*, 13 Aug, COLUMBIANA Co, 1st state confirmation (RR); *E. perattenta*, 21 June, GEAUGA Co, STATE (JH); *C. acadensis*, 13 July, GEAUGA Co, STATE (LK); *E. hebardii*, 16 Aug-7 Sept, Sciota Co, several, & 2nd location because 1984 was the STATE and SCIOTA Co record (WB, JH, EM); *S. bifascia*, 12-17 Aug, ADAMS, SCIOTA Cos, STATE (EM).

INDIANA. Four submitted reports; only Eiler and Shull sent detailed summaries. Shull collected from 20 Mar to 15 Oct, recording 63 butterfly and 150 moth species but his collecting was not as extensive as usual. Leuschner sampled the Indiana Dunes and noted little change in the moth fauna in 35 years.

BUTTERFLIES: *P. communis*, 19 Sept, GRANT Co (DE); *N. lherminier*, 17 July, Brown Co (ES); *E. conspicua*, 7 Aug, LaGrange Co (DE); *P. protodice*, 28 July, Wabash Co (ES); *I. henrici turneri*, 20, 21 Apr, Union Co (ES); *E. dorcas*, *C. muticum*, 7, 8 Aug, LaGrange Co (DE); *L. bachmanii*, 11 July-19 Sept, GRANT, Kosciusko, Wabash Cos (DE, ES); *S. appalachia leewii*, 3 Aug, Wabash Co (ES).

MOTHS: *Hyposopygia costalis*, *Heliomata cycladata*, 16 June, Union Co (ES); *A. torrefacta*, 18 July, Brown Co (ES); *C. regalis*, *E. imperialis*, *S. bicolor*, 16-19 July, Brown Co (ES); *D. hyloeus*, *M. auricinctaria*, *D. puncticosta*, *nigella*, *H. caducus*, 26 July, Indiana Dunes, (RL); *C. serena*, *obscura*, *unijuga*, 16-19 July, Brown Co (ES); *A. impleta*, 21 Sept, Wabash Co (ES); *S. thoreau*, 26 July, IN Dunes (RL).

ILLINOIS. Hess and Wiker, reporting from west central counties, sent detailed reports, and found good collecting, though a year of contrasts. Hess began the season on 7 Mar and ended on 17 Nov with sightings of *C. eurytheme* and *philodice*. He recorded 79 butterfly species for the season. Wiker initiated spring collecting about 2 weeks earlier than normal, with several butterflies that peaked in early May and were gone by July. Hess reported spring was very early and warm, and summer cooler than normal for the first half and wet the remainder. Early Sept was unusually hot, while the rest of the month was very cold. Fall was very wet and cloudy with 10 in of rain in Nov in McDonough Co - a fall record. Butterflies found in record high numbers included: *B. philenor*, *P. protodice*, *N. antiopa* and *C. gorgone carlota*. Most migratory butterflies were down, except for *D. plexippus* and *Eurema*. Several Lep Soc members enjoyed the trip to Sand Ridge State Forest (SRSF) in Mason Co, collecting 48 butterfly species and, at least, 62 moth species, in two days.

BUTTERFLIES: *E. martialis*, 23 May, 23 July, Mason Co (GB, JRW); *S. hayhurstii*, 23 May-23 July, Mason, Scott Cos (DH, MN, JRW); *H. ottoe*, 23 June-22 July, Mason Co (DH, JRW); *H. leonardus pawnee*, 5 Sept, McDonough Co (DH); *A. campestris*, *A. arogos*, 30 June, Mason Co (DH); *P. byssus*, 24 June-23 July, Mason, McDonough Cos (DH, JRW); *A. hianna*, 23 May, Scott Co (DH); *A. hegon*, 3-23 May, MACOUPIN, SCOTT Cos (DH, JRW); *A. vialis*, 5 May-22 July, FULTON, Mason, Scott Cos (DH); *A. midea*, 3 May, Macoupin Co (JRW); *E. nicippe*, 2 Sept, Pike Co (DH); *N. iole*, 22 July, Mason Co (LM); *F. tarquinius*, 3 May, 22 July (GB, JRW); *S. liparops strigosa*, *edwardsii*, 10 June-22 July, Mason, McDonough Cos (DH, JRW); *I. henrici*, 17 Apr-3 May, Macoupin, Menard, Jersey Cos (JRW); *L. marina*, 21 July, Menard Co, 1979 (JRW); *C. ebenina*, 20 Apr, McDonough Co (DH) & 5 May, Menard Co, det by Covell (JRW); *S. idalia*, 22 June-23 July, Mason Co (DH, MN, JRW); *B. bellona*, 17 Apr-16 Oct, Brown, Mason, McDonough Cos (DH, JRW); *C. gorgone carlota*, 26 Apr-23 July, Mason Co (DH, LM, MN, JRW) & adults reared from larvae on *Helianthus petrolaris* at SRSF (MN); *C. pegala olympus*, 22 June-24 Aug, Mason, McDonough Cos (DH).

MOTHS: *Inga cretacea*, 21 July, Mason Co (RL); *Stagmatophora wyatella*, 23-25 July, Glen Ellyn, (RL); *Epiblema exacerbatricana*, *Mimoschinia nr. decorata*, *Helvibotys helvialis*, 21 July, Mason Co (RL); *Heliomata cycladata*, 22-29 May, Mason, Hancock Cos (GB, DH, YS); *Itame flavicaria*, *Enconista dislocaria*, 23 May, Mason Co (GB); *Leptostales rubromarginaria*, *A. bisecta*, *C. scitiscrita*, 19 July, Monticello (RL); *S. eremitus*, 10 July, Cary (IL); *P. modesta*, 26 July, Menard Co (JRW); *D. inscripta*, 18 Apr-22 May, Mason, McDonough Cos (GB, YS); *H. fractilinea*, *L. hinna*, 21 July, Mason Co (RL); *C. consors*, 21 July, Mason Co (RL, MN); *C. serena*, *judith*, *insolabilis*, *robinsoni*, 21, 22 July, Magnolia, Monticello (RL); *T. semiflava*, 22 May-22 July, Mason Co (GB, DH, YS); *A. lactipennis*, 22 May, Mason Co (GB); *A. funeralis*, 19 July, Monticello (RL).

IOWA. Mouw reported a very early spring and dry summer, and found all species of butterflies and moths down in

numbers, especially the common Catocala. Mow and Jordison continued to show interest in the Catocala in their respective areas, taking 16 and 23 species respectively - a total of 29 species.

BUTTERFLIES: F. tarquinius, 26 August, Pottawattamie Co (JJ); P. tharos, 21 June, Story Co (JS).

MOTHS: E. imperialis, 3-7 Aug, CLAYTON Co (JJ, JM); S. eremitus, 3 Aug, Clayton Co (JJ); C. juglandis, 8 July, HARDIN Co (JM); S. abbottii, 8 May, Hardin Co (JM); H. gallii, 9 July, HARDIN Co (JM); C. insolabilis, 26 June-6 Aug, Clayton, Hardin, Pottawattamie, WINNISHIEK Cos (LC, JJ, JM); C. vidua, 3-6 Aug, Clayton Co (JJ); C. ilia, coccinata, 18 June, Pottawattamie Co, early (JJ); C. abbreviatella, nuptialis, whitneyi, 2-9 July, Fairmount Pk, Pottawattamie Co (JJ); C. crataegi, minuta, 16 June, Hardin Co (JM); C. micronympha, 9 July-6 Aug, Clayton, HARDIN Cos (JJ, JM).

MINNESOTA. Three brief reports covering limited periods, areas and species were received. Mueller, though, did manage to establish over 700 new county butterfly records; he found butterfly collecting good until mid-July, but he failed to locate any Polygonia after that time.

BUTTERFLIES: P. communis, 21-28 July, Freeborn Co (JS); H. dacotae, A. campestris, 12 July, Clay Co (F/JP); A. logan lagus, 12 July, Clay Co (F/JP) & MORRISON, TODD Cos (SM); E. olympia, CASS, CROW WING Cos (SM); F. tarquinius, CROW WING Co (SM); C. xanthoides dione, CROW WING, TODD Cos (SM); E. dorcus, L. idas nabokovi, 13 July, Lake Co (F/JP); S. edwardsii, CROW WING, TODD Cos (SM); L. bachmani, 21-28 July, Freeborn Co (JS); C. selene atrocotalis, C. harrisii hanhami, 13, 14 July, Lake Co (F/JP); C. gorgone carlota, CROW WING, MORRISON, TODD, WADENA Cos (SM); B. arthemis rubrofasciata, 13, 14 July, Lake, St. Louis Cos (F/JP); S. eurydice fumosus, 21-29 June, Faribault, Freeborn Cos (JS); L. anthedon borealis, 13, 14 July, Lake Co (F/JP); C. inornata, 13, 14 July, Lake, St. Louis Cos (F/JP).

MOTHS: C. epione, 9 Aug, WINONA Co, STATE; C. coelebs, 9-11 Aug, ST. LOUIS Co, STATE; C. serena, judith, 9 Aug, WINONA Co, STATE; C. obscura, 9 Aug, WINONA Co, STATE; C. subnata, neogama, 9 Aug, WINONA Co; C. whitneyi, 28 July, Clay Co (all LC).

WISCONSIN. Six responded for the state. Ferge found mild conditions in Mar-Apr bringing a number of early-season moths to appear up to 3 weeks before normal. The season changed abruptly for the worse the last of July with cool, rainy weather for the duration. Moth collecting was down from the past few years. The Catocala, fewer than last year, were noticeably affected by the warm spring, as adults were emerging in late June and declining by August. Parkinson also experienced similar conditions with the Catocala, and found the anglewings still slow in recovering, and many Lycaenidae and Hesperidae down in numbers, in northern counties. Holbach found baiting good in July, but it fell off drastically by Aug 1st. Wilterding experienced a very productive season, in general, especially with Nymphalidae.

BUTTERFLIES: C. palaemon mandan, 1-5 June, Keweenaw Co (JHW); O. poweshiek, 29 June, Waukesha Co (GB); H. metea, 18 May, Adams Co (JP); E. conspicua, 16 June, Keweenaw Co (JHW); A. hianna, 18 May, Adama Co (JP); P. cresphontes, 1 June, Grant Co (JP); P. g. glaucus, 28 July, Marathon Co, NORTH (JP); P. protodice, 4 Aug, MONROE Co (JF); P. lisa, 3 July, VILAS Co (GB); E. epixanthe michiganensis, dorcas, 1-4 July, Marathon Co (JP); S. acadica, c. falacer, liparops strigosum, 3, 4 Aug, MONROE Co (JF); C. lygdamus couperi, L. melissa samuelis, 18 May, Adams Co (JP); P. saepiolus, 30 June, Vilas Co (GB); B. bellona, 13 May, 4 Aug, MONROE, Portage Cos (JF, JHW); C. gorgone carlota, 18 May-5 July, Adams, Jackson Cos (JP); C. inornata, 30 June-3 July, VILAS Co (GB); O. chryxus strigulosa, 12 May, Langlade Co (JP).

MOTHS: Cicinnus melsheimeri, 1-7 June, EAU CLAIRE, Grant Cos (LF, JP); S. eremitus, 2 July, Marathon Co (JP); S. gordius, 29 June, IOWA Co, nesting on Bouncing Bet (LF); S. luscitiosa, 2 July, Vilas Co (GB); S. cerisyi, 22 Apr, Dane Co, early (LF); E. pandorus, 22 June-26 July, SHEBOYGAN, SAUK Cos (LF, JP); E. achemon, Milwaukee Co, larvae on woodbine (LF); H. gallii, 2-18 July, Sheboygan, Vilas Cos (GB, GH); D. anguina, 8 June, BURNETT Co (LF); S. latipennis, 1 June, GRANT Co (LF, JP); E. scribonia, 1 June, Grant Co (JP); A. anna, 1-7 June, EAU CLAIRE, Grant Cos (LF, JP); P. spraguei, 7 June, EAU CLAIRE Co (LF); I. tenuis, 1 June-4 July, Grant, TREMPLEAU Cos, UV & bait, NORTH (LF); L. detrahens, 27 July, GRANT Co, STATE, NORTH (LF); C. innubens, 10 Aug, TREMPLEAU Co (GB); C. insolabilis, 13 July, GRANT Co, STATE (LF); C. nebulosa, subnata, 12-27 July, Grant, Sauk, Trempealeau Cos (LF, JP); C. briseis, 13 Aug, Keweenaw Co (JHW); C. meskei, 26 July, Sauk Co (LF); C. junctura, 12 July, Sauk Co (LF); C. nuptialis, 10 Aug, Trempealeau Co (GB); C. whitneyi, 5-13 July, Grant, TREMPLEAU Cos (LF); C. amestris, 4 July-9 Aug, Burnett, Sauk, TREMPLEAU Cos (LC, LF); C. praeclara, 18-26 July, Fond du Lac Co (GH); C. clintoni, 5 July, Trempealeau Co (LF); A. biloba, 22 Apr, early, to 20 June, Dane, Marathon Cos (LF, JP); C. burgessi, 7 Sept, GREEN Co (LF); P. appassioata, 30 Aug, Oneida Co, UV (LF); P. beeriana, 7 Sept, GREEN Co (LF); I. u-album, 3 Aug, KENOSHA Co, STATE (LF); E. decliva, P. anceps, 17 Oct, SAUK Co (LF); S. maryx, congernana, 8 June, Burnett Co (LF); L. rugosa, 2 July, Vilas Co (GB); E. rubripennis, 5 July, Trempealeau Co (LF); S. septentrionalis, 7 Sept, Green Co, UV & on Liatris flowers (LF).

MICHIGAN. Ten individuals reported from widely scattered counties giving the state good coverage. An early spring was followed by a very cool and dry June. The rest of the summer was a mix of weather followed by a cool and wet fall. Despite the unpredicted weather, many new and unique species were recorded. Nielsen recorded 81 butterfly species - up from last year; although he found Catocala noticeably down from 1984. Miller also reported Catocala way down, yet he recorded 38 species - his best ever! Most reported a definite increase in V. atalanta, which was found throughout the season in all areas. Hairstreaks continued in low numbers throughout the state.

BUTTERFLIES: E. baptisiae, 19 July, Monroe Co (JW); E. persius, 1-18 May, Kalamazoo, Montcalm Cos (GB, LG, MM, MN); P. centaureae wyandot, 11-23 May, ANTRIM, Otsego Cos (GB, WM, JW); P. communis, 4-20 Sept, Cass, ST. JOSEPH Cos (WM, MN, JW); H. comma laurentina, 3-17 Aug, Chippewa, Mackinac Cos (GB, MN); H. ottoe, 30 June, Allegan Co (JW); H. phyleus, 7-29 Sept, Monroe, Wayne Cos (CA, JW); A. hianna, 18 May-1 June, Monroe, Newaygo Cos (LG, MM, JW); A. hegon, 27 May, Dickinson Co (JW); P. polyxenes asterius, 21 Aug, HOUGHTON Co (JP); I. polios, 12 May, Montcalm Co (GB); I. irus, 5-18 May, Allegan, Montcalm Cos (GB, LG, MM, MN, JW); I. henrici, 19 May, Barry Co (WM); I. eryphon, 8-15 June, Mackinac Co (TH, MN); L. idas nabokovi, 29 June, Alger Co (TH, MN, JW); L. melissa samuelis, 18-24 May, Allegan, Montcalm Cos (LG, MM, MN); P. saepiolus amica, 28, 29 June, Alger, Chippewa, Schoolcraft Cos (TH, MH, JW); S. melinus humuli, 10 May, Montcalm Co (MN); C. muticum, 18 July, Oakland Co (JW); E. claudia, 15 June, 13-20 Sept, Cass, Mackinac, St. Joseph Cos (WM, MN, JW); P. eunomia dawsoni, 15 June, Mackinac Co (Cowan via MN); C. inornata, 29, 30 June, Emmet, Mackinac Cos (MN); O. chryxus strigulosa, 11-18 May, ANTRIM, Newaygo Cos (GB, LG, MM); O. jutta ascerta, 1-15 June, Chippewa, Mackinac Cos (VL, LM, MN, JWP).

MOTHS: Enconista dislocaria, 12 July, St. Joseph Co (GB); Orthofidonia flavivenata, 22 Apr, ROSCOMMON Co (MN); E. imperialis pini, 1 ♀ 5 July, Otsego Co (MN); C. hageni, 29 May, 27 Aug, Cass, MACKINAC Cos (IL, WW); S. luscitiosa, 26 May-15 June, Otsego Co (MN); S. jamaicensis, 11 Oct, Cass Co, late (MN); H. gracilis, 25 May-7 June, Montcalm, Schoolcraft Cos (EM, JWP); D. versicolor, 13 July-18 Aug, BARRY, St. Joseph Cos (GB, WM); H. gallii, 15 June, Chippewa Co (VL); X. tersa, 16 June, CASS Co (WW); C. brucei, 15 June, CHIPPEWA Co (VL); H. aurora, 15 June, Otsego Co (MN); C. casta, 2 Aug, LENAWEE Co (LG, MN); P. parthenos, 29 June, SCHOOLCRAFT Co (MN); C. flebilis, 17 July-3 Sept, KALAMAZOO Co, STATE (WM); C. insolabilis, 12 July-3 Aug, Lenawee, ST. JOSEPH Cos (GB, MN); C. lacrymosa, 1 Aug-18 Sept, KALAMAZOO Co (WM); C. meskei, 26 July-3 Aug, Lenawee, ST. JOSEPH Cos (GB, LG); C. amestris, 13 July, BARRY Co, STATE (GB); C. dulciola, 8-15 July, KALAMAZOO Co, STATE (WM); A. rubida, flagellum, 15 June, OTSEGO Co (MN); B. doubledayi,

17 Aug, OTSEGO Co (MN); E. rolandiana, 18 June, Barry Co, fresh moths resting in 'pitchers' (GB); C. cora, 2 June, Cheboygan Co (MN); S. inops, 20,21 Sept, CASS CO, STATE (MN); P. buffaloensis, 24 Aug, Cass Co (WW); P. cerina, rutila, nepheleptena, sciata, limpida, lysimachiae, 20-22 Sept, Cass Co (LG,RH,MN); F. littera, 27 July, KALAMAZOO Co (GB); X. nupera, 19 Apr, OTSEGO Co (MN); M. ducta, 18 June, CHIPPEWA Co (EM); B. borealis, 19 Apr, Otsego Co (MN); C. omisa, 17 June, CHIPPEWA Co (EM) & 24 May 1983, OTSEGO Co, STATE (MN); M. pulverulenta, radix, 15 June, CHIPPEWA Co (VL); L. linita, 15,16 June, CHEBOYGAN, CHIPPEWA Cos, STATE (VL,EM); P. exprimens, 26 May, OTSEGO Co (MN); S. indiana, 18-25 May, MONTCALM Co, STATE (LG,EM); S. thoreau, 3 Aug, Lenawee Co (MN).



ZONE 9. SOUTHEAST: TENNESSEE, MISSISSIPPI, ALABAMA, VIRGINIA, NORTH CAROLINA, SOUTH CAROLINA, GEORGIA, FLORIDA, BERMUDA. Coordinator: Andrew F. Beck (AFB). Contributors: Richard W. Boscoe (RWB), Lualhati Eroles-Harkins (LEH), James P. Fitter (JPF), Mecky Furr (MF), Wayne A. Miller & L. F. Gall (M&G), Harry Pavulaan (HP), Dale F. Schweitzer & Steven Q. Croy (S&C, via Dave Winter). Some determinations were made by Paul Marsh (PM) and R. Brown (RB) via LEH. HP reports an early spring after a cold snap in the Washington, DC area. Many unusual forms were collected, displaying minor and major variations of the usual spring facies. All of the spring species were seen at the early end of their usual emergence periods, and summer forms and species were seen in late spring. MF reports a great year for Catocala in western Tennessee (MF and M&G report 34 species taken in June and July). Florida had another cold winter, for the 3rd year in a row (AFB). A few contributors reported county records which, although technically valid, fell into holes in the wide distribution of several common species. These records have been forwarded for compilation, but most of the predictable ones have been omitted here for space purposes. The efforts of these persons are appreciated and encouraged. RECORDS are in caps, all dates are 1985 unless otherwise indicated. Abbreviations: Wm = William; Hol. = Hollow; AFB = Air Force Base; fm. = form; det = determined.

TENNESSEE. MOTHS: NOCTUIDAE- (All M&G records are Clay Co, 20-25 July, and all MF records are Shelby Co at bait and on tree trunks.) Catocala flebilis (M&G); C. angusi (M&G), 11 Jul (MF); C. a. fm. lucetta (M&G), 11 Jul (MF); C. obscura (M&G); C. sappho (M&G); C. resecta fm. luctuosa (M&G), 10, 11, 19 Jul (MF); C. ulalume (M&G); C. dejecta (M&G); C. insolabilis (M&G), 10-27 Jun and 3, 12, 19, 22 Jul (MF); C. maestososa, 29 Jun, 12-23 Jul (MF); C. nebulosa (M&G); C. subnata (M&G); C. amatrix, 7-22 Jul (MF); C. a. fm. selecta, 11-19 Jul (MF).

MISSISSIPPI. (no contributors)

ALABAMA. BUTTERFLIES: P. protodice, STATE, RUSSELL Co, 11 Oct 1972; E. l. lisa, RUSSELL Co, 9 Oct 1972. H. c. antibustus, STATE, RUSSELL Co, 11 Oct 1972 (all JPF).

VIRGINIA. BUTTERFLIES: A. lyciades, STAFFORD Co, 6 Aug (JPF); T. bathyllus, FAUQUIER Co, 6 Aug (JPF); Atalopedes campestris, Fairfax Co, larvae on Panicum columbianum (JPF). P. cresphontes, Fairfax Co, 30 Apr, EARLY (HP). C. eurytheme, Reston, Fairfax Co, 14 Sep, FW orange, HW white (HP). C. ladon, Fairfax & Arlington Cos, 5 distinct broods, mid-Mar to early Sept (HP). S. aphrodite, SHENANDOAH Co, 9 Jul (JPF); P. tharos, Suffolk Co, 30 Mar, EARLY (JPF); L. a. astyanax, Page Co, ovipositing on V. corymbosum (JPF); L. archippus, Fairfax Co, larvae on Pop. grandidentata (JPF).

MOTHS: SATURNIIDAE- A. id. Prince Wm. Co, larvae on Populus grandidentata, & Fairfax Co, larvae on Lespedeza sp. (both JPF). **NOCTUIDAE-** Cyathissa precara, Isle of Wight Co, 23 Jun (S&C); Z. martha, South Quay, Isle of Wight Co, 24 Jun; Z. gypsalis, Poverty Hol., Montgomery Co, 24, 25 Jul (both S&C); C. sordida, Isle of Wight Co, 23 Jun (S&C); P. acronyctoides, Poverty Hol., Montgomery Co, 24-25 Jul (S&C). **LYMANTRIIDAE-** O. leucostigma intermedia, Fairfax Co, larvae on Platanus occidentalis (JPF). **PYRALIDAE-** Macrochilo hypocritalis, South Quay, Isle of Wight Co, 24 Jun, & Poverty Hol., Montgomery Co, 24-25 Jul (both S&C).

NORTH CAROLINA. BUTTERFLIES: C. neglectamajor, Cherokee Ind. Res., SWAIN Co, STATE, 18 May, SOUTH (HP).

SOUTH CAROLINA. (no contributors)

GEORGIA. MOTHS: SATURNIIDAE- C. securifera, near Augusta, RICHMOND Co, cocoons on Magnolia virginiana, Dec (JT). **SESIIDAE-** Parantherene dollii larvae parasitized by Phorocera signata (Tachinidae, det: PM) and Apanteles spp. (Braconidae, det: RB) (LEH).

FLORIDA. BUTTERFLIES: Megathymus cofaqui, Eglin AFB, OKALOOSA Co, 23 Jun 1972 (JPF). P. statira, Broward Co, ovipositing on Dalbergia ecastophyllum, 4 Nov (RWB). Calephelis virginensis, Dade Co, larvae on Cirsium horridulum, 9 Nov (RWB). C. ladon, Eglin AFB, OKALOOSA Co, 20 Apr 1972 (JPF). Marpesia chiron, Big Pine Key, Monroe Co, 7 Nov, adult on lantana blossoms (RWB). E. areolata, Dade Co, 6 Nov, ovipositing on Carex sp. in confinement, reared successfully (RWB).

BERMUDA. (no contributors)



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; William Boscoe (WB); Auburn E. Brower (AEB); Lars Crabo (LC); Rick Enser (RE) via DS; John Fales (JF); L. Paul Grey (LPG); William Grooms (WG) via PK, JF; David Hess (DH); Philip Kean (PK); George Kriazek (GK); Ross Layberry (RAL); Ron Leuschner (RL); Gary Mitchell (GM); Austin Platt (AP) via PK; Cris Raithel (CR) via DS; Tom Rawinski (TR) via DS; Howard Romack (HR); Calvin Schildknecht (CS); Dale Schweitzer, for the Nature Conservancy (DS); Richard Smith (RS) via PK; Tom Smith (TS) via DS; Don Tangren (DT); Richard Waldrep (WR) via PK; Mervin Wenger (MW); Jim White (JW) via LPG; Tony Wilkinson (TW) via DS; David M. Wright (DMW).

MIGRATORY SPECIES: D. plexippus larvae more commonly on Asclepias incarnata rather than on A. syriaca; adults abundant late July to early Sept (CS); abundant in Cape May Co, NJ, mid-August (DH); single spring migrant in southern Maryland, 30 April (JF); first fall migrants detected 11 Sept in southern Maryland, one day ahead of average date for area; counts up to 11/min on 26 Sept, then 10/min on 28 Sept, despite hurricane with 6-10 inches of rain on 27 Sept; small numbers seen throughout October, last two on 18 November; flying with plexippus at various times were P. rapae, C. eurytheme, C. philodice, P. interrogationis, N. antiopa, V. atalanta, J. coenia, E. claudia, and Odonata spp. (JF).

LABRADOR/NEWFOUNDLAND. Season in general was noted to be some two weeks later than usual in both areas by LPG and LC; portable generator and MV light were highly productive (their geos not yet prepared or identified).

LABRADOR. BUTTERFLIES: *N. milberti* sporadic in late June and early July, Southern Labrador (LPG,LC) and one near St. Pauls, 22 July, with many larval skins on *urtica* (RAL); *V. virginiensis*, *V. cardui* sporadic in Southern Labrador in late June and early July and *V. atalanta* abundant (LC,LPG); *Oeneis jutta* and *O. polixenes* both common in Southern Labrador, as in 1983, vs none in 1984, suggesting biennial odd-year cycle (Newfoundland *jutta* is allegedly an even-year biennial)--more observations are needed (LPG).

MOTHS: (all L'Anse au Loup, bog adjacent to town, and all LC,LPG, unless otherwise noted); *Drepana arcuata*, frequent; *Hyles gallii intermedia*, 5 & 6 July; *Pheosia rimosa*, 8 & 10 July; *Gynaephora rossii*, 10 July, daytime; *Scoliopteryx libatrix*, 6 July; *Anagrapha falcifera*, 8 July; *Syngrapha altera*, 6 July; *Merolonche* sp. not *dolli*, flying in bog in daytime, L'Anse au Clair, 11 July; *Hypochoenia rufostrigata*, 11 July; *Hyppa xylinoides*, very common; *Dicestra* (*Scotogramma*) *trifolii*, common; *Melanchra pulverulenta*, common; *Lacanobia radix*, 8 July; *Papestra quadrata ingravis*, very common; *P. biren*, 6 & 8 July; *Anartomima* ("*Polia*") *secedens*, common; *Hecatera sutrina*, 5 July; *Lasionycta* sp. near *subdita*, abundant; *Pseudaletia unipuncta*, very common; *Diarsia rosaria*, frequent, early July; *Anomogyne fabulosa*, 10 & 11 July; *A. speciosa*, 11 July, ex pupa found under stone on tundra, L'Anse au Clair; *Paradiarsia littoralis*, 11 July; *Hemipachnobia monchromatea*, common; *Anaplectoides prasina*, 8 & 11 July; *A. pressus*, 11 July.

NEWFOUNDLAND. BUTTERFLIES: *Limenitis arthemis* near Lomond, 19 July (RAL).

MOTHS: (all at TV tower NNW of Deer Lake, W of Viking trail, and all LC,LPG unless otherwise noted); *Hyles gallii intermedia*, 12 July, Deer Lake and 14 July, Doyles/vic; *Ciseps fulvicollis*, common, mid-July, Doyles/vic.; *Catocala semirelicta*, late Aug 1983, Doyles (JW); *Syngrapha microgamma*, mid-July, Doyles/vic.; *Lithacodia bellicula*, 16 July (day), Doyles/vic.; *Raphia frater*, 27 June; *Acronicta lepusculina*, 12 June, Deer Lake and 14 July, Doyles/vic.; *A. radcliffei*, 27 June, 12 July; *A. superans*, 27 June; *A. auricoma*, 27 June; *Apamea vultuosa*, 12 July; *A. commoda*, mid-July, Doyles/vic.; *Euplexia benesimilis*, 27 June & 12 July; *Phlogophora iris*, 12 July; *Lithophane pexata*, 28 June, St. Barbe; *Feralia jocosus*, 28 June, and *F. comstocki*, 28 June, both St. Barbe; *Cucullia omisssa*, 14 July, Doyles/vic.; *Melanchra pulverulenta*, 27 June & 12 July, Deer Lake, & mid-July, Doyles/vic.; *Lacanobia nevadae*, 12 June, Deer Lake & 13 July, Doyles/vic.; *Spiramater* (*Lacanobia*) *grandis*, 13 July, Doyles/vic.; *S. lutra*, 12 July; *Lacanobia* (*Trichordestra*) *tacoma*, common, 27 June; *Papestra quadrata ingravis*, 27 June; *P. biren*, 27 June; *P. cristifera*, 12 July; *Diarsia rosaria*, 12 July; *Melanchra adjuncta*, 12 July; *Metalepsis fishii*, 26 June, Doyles/vic.; *Aplectoides condita*, 27 June; *Pyrrhia exprimens*, 12 July, Deer Lake, mid-July, Doyles/vic.

MAINE. BUTTERFLIES: *Hylolycaena hyllus* was found by AEB in his garden in August, Kennebec Co, a most unlikely place, and the only sighting in 45 years.

NEW HAMPSHIRE. BUTTERFLIES: *Erynnis brizo*, Madison, 22 May; Concord, 6 June (DS).

MOTHS: *Eumacaria latiferrugata*, Concord, Merrimac Co, 20 May; *Itame inextricata*, Madison barrens, Carrol Co, 17 July; *Glena cognataria*, Concord, 20 May & Madison, 22 May (all DS); *Epirrita autumnata*, Pilot Range, Coos Co, 7 Sept (LC); *Apantesis* sp. (? *speciosa*), Hudson, Hillsboro Co, 17 June; *Xanclognatha martha*, Madison, 17 July; *Macrochilo* (= *Hormisa*) *louisiana*, Hudson, 17 June; *Zale obliqua*, Madison, 17 July; *Z. submediana*, Concord, 20 May & Madison, 22 May; *Z. curema*, Concord, 20 May; *Catocala similis*, Madison, 17 July (all DS); *Xylena throacica*, Madison, 15 April (TR); *Platipolia anceps*, Pilot Range, Coos Co, 7 Sept (LC); *Lithophane lepida lepida*, Madison, 15 April (TR); *Eupsilia sidus*, Ossipee Pine Barrens, Carroll Co, 5, 10 Oct (LC); *Chaetoglaea cerata*, Concord, 2 Oct (blacklight only, DS); *Xylotype capax*, Concord, 2 Oct (DS) & Ossipee Barrens, 5, 10 Oct (LC); *Apharetra purpurea* (pale and strongly marked), Madison, 17 July; *Agrotis stigmosa*, Concord, 20 May (both OS).

VERMONT. BUTTERFLIES: Non-conformist award of the decade goes to HR, who at Kent Hollow, Bennington Co, has taken two *Papilio glaucus canadensis*, melanica aberration "fletcher", 26 May and 12 June 1982; an unnamed aberration of *canadensis* with the orange spots at the anal angle of the hind wing smeared mesiad, 12 June 1983; *Nymphalis antiopa* f. "hygeia", 17 June 1980; and an intergrade with *L. astyanax* on the left, *L. arthemis* on the right, 18 June 1980.

MASSACHUSETTS. BUTTERFLIES: *Erynnis persius*, local, near *Baptisia*, Myles Standish SF, 24 May (DS); *Mitoura hesseli*, Ponkapoag Bog, 30 May (DS); *Incisalia henrici*, Ponkapoag Bog, 30 May (DS), common at Wellesley, Middlesex Co, 21 April-30 May; females commonly sat among thickets of the exotic *Rhamnus frangula*, and several ovipositions were observed on flower buds; males perched in woods over 100 meters from places where females were most common; females did not rest on or oviposit on 3-4 abundant species of blueberry; A female sleeved 30 May on a flowering branch of *R. frangula* was still alive 15 June; Her larvae preferred blossoms and berries but readily ate foliage, pupating 2nd week in July (DS); One larva reared in part indoors emerged mid-August (DW).

MOTHS: Good late winter bait season, with thousands of *Lithophane* seen 24 Feb-20 Mar, Stony Brook Res., Suffolk Co (LC); *Palaecrita merricata*, Myles Standish State Forest, Plymouth Co, 23 Mar (LC); *Lacosoma chiridota*, at light, Ponkapoag Bog, 18 June (DS); *Apantesis* sp. (? *speciosa*), *Metarranthis pilosaria* (common NORTH), and *Macrochila* (= *Hormisa*) *louisiana* (STATE) Ponkapoag Bog, 18 June (DS); *Zale submediana* swarmed at bait, Myles Standish SF, 24 May (DS); GM, repeatedly examining a city park in Salem, Essex Co, sighted 54 *Catocala* roosting by day between 8 Aug and 15 Sept, 15 species, about half of the number to be expected in the area; *Exyra rolandiana*, Ponkapoag Bog, 18 June (DS); *Lemmeria digitalis*, Myles Standish SF, 14 Oct, and *Papaipema appassionata*, Ponkapoag Bog, Norfolk Co, 15,18 Sept (LC); *Lithophane patefacta* (including 15% "niveicosta") now common in variety of habitats in Norfolk & Plymouth Cos (DS); *L. petulca*, 11, 20 Mar, *L. signosa*, 11 Mar, and *L. baileyi*, 1 Mar, Stony Brook (LC); *L. georgii*, Stony Brk, 24 Feb, and Myles Standish SF, 23 Mar (LC); *L. pexata*, Stony Brk, 1, 11 Mar (LC); *L. thaxteri*, Ponkapoag Bog, 27-28 March (DS), common, 9 and 19 Oct (LC, DS), and one at Myles Standish SF, 14 Oct (LC); *Sericaglaea signata*, Stony Brk, 20 Mar, NORTH (LC); *Apharetra purpurea*, Myles Standish SF, 23 July (LC); large number of *Morrisonia* ssp. at bait (!), Myles Standish SF, 24 May (DS); *Agrotis manifesta*, Myles Standish SF at light, 24 May; *Aplectoides condita* (white form), Myles Standish SF, 24 May, and (several, black form), Ponkapoag Bog, 18 June (DS).

RHODE ISLAND. MOTHS: (all Washington Co); *Epirrita autumnata*, Eppley, 24 Oct (LC); *Hemileuca maia*, Hopkinton, 9 Oct (TR, CR, RE); *Zale lunata*, Kingston, 5 Apr, early (DS); *Lithophane viridipallens*, Hopkinton, 9 Oct (TR), Great Swamp, 18 Oct (LC) and 7 Nov (CR, RE), Kingston, 24 Oct (DS) (species seems consistently associated with *Ilex opaca* and *glabra* in Northeast, DS); *L. thaxteri*, Eppley, 23 Oct (LC); *Sericaglaea signata*, Great Swamp, 23 Oct (LC); *Xylotype capax*, E. Greenwich, 15 Oct, NORTH (CR, RE).

PENNSYLVANIA. BUTTERFLIES: *Staphylus hayhurstii*, Nottingham Barrens, Chester Co, 10 April (TW, TS), and an established colony (4 years) in S. Lancaster Co with brood peaks, 2 June and 3 Aug (MW); *Erynnis icelus* early and numerous, Chester Co, 23 April (DS); *E. martialis*, Nottingham Barrens, 10 April (TW, TS); *E. baptisiae*, early and numerous, Chester Co,

23 April (DS); E. persius, assoc. with Baptisia, Reeders, Monroe Co, 13-14 May (DS, TW, TS); Pyrgus c. wyandot, Ardenheim, Huntington Co, 20 April (DS, TS); Atalopedes campestris, many nectaring on Bidens cernua, Lancaster Co, 8-30 Sept (MW); Panoquina ocola, Lancaster Co, 14 Sept (MW); P. cresphontes and Hylolycaena hyllus continue to thrive on the Gettysburg Battlefield, Adams Co; Incisalia irus, N Lancaster Co, 4-14 May (MW) & assoc. with Baptisia, Reeders, Monroe Co, 13-14 May (DS, TW, TS); Calephalis borealis not found on serpentine barrens near Westchester and elsewhere in Chester Co (TS, TW); Speyeria idalia was again not seen at Gettysburg in 1985; Euphydryas phaeton unusually abundant near Huntsdale, 22 June, at abandoned fish hatchery ponds; Satyrodes appalachia seen for the first time at Gettysburg, 22 June, 13 July (all CS).

MOTHS: Itame inextricata, pine barrens/acid wetland complex near Long Pond, Monroe Co, 17-18 July (DS); Glena cognataria, 17 June, Epirrita autumnata henshawi, 10 Oct, Hemileuca maia, 9-10 Oct, all Long Pond (DS); Herse cingulata, Philadelphia, 28 Sept (WB); Sphinx eremitus, Aultman, Indiana Co, 4 July, 1 Aug, and larvae found on undetermined mint (DT); S. canadensis, Aultman, 28 July (DT); Paonia astylus, 18 June, Idia dimineundis, 14 Aug, Zanclonatha martha, 16 July, 14 August, all Long Pond (DS); Phoberia orthosioides, Scotia Barrens, Centre Co, 20 April, Zale submediana, Scotia Barrens, 20 April, and Long Pond, 13 May (DS); Z. curema, Long Pond, 13 May (DS); Catocala neogama, LATE on 24 Oct, C. connubialis f. pulverulenta, 22 July, Willow Grove, Montgomery Co, (WB); Eosphoropteryx thyatyroides, Aultman, 29 Sept (DT); Merolonche dolli, Scotia Barrens, 20 April; Apamea cristata, 16-17 July, Long Pond (both DS); Papaipema nepheleptena, Wattsburg Fen, Erie Co, 24 Sept (CB); P. marginidens (=nephrasyntheta), Cowens Gap, 4-5 Oct (CB); P. rigida, Aultman, 5 Oct (DT); Xylena cineritia, Scotia Barrens, 20 April (DS); x Lithomoia solidaginis germana, Wattsburg Fen, 24 Sept (CB) and Long Pond 9-10 Oct (DS); Metaxaglaea semitaria, Long Pond, 9-10 Oct (DS); Epiglaea apiata, Long Pond, 9-10 Oct (DS) and Wattsburg Fen, 24 Sept (CB); Chaetoglaea cerata, Long Pond, 9-10 Oct (DS); C. tremula, Aultman, 9-14 Oct (DT); Psectraglaea carnosa, Long Pond, 9-10 Oct (DS); Xanthia togata, Wattsburg Fen, 24 Sept (CB); Xylotype capax, Cowan Gap, Fulton Co, 4-5 Oct and Scotia Barrens, 20-21 Sept (DS); Eulotype grandis, Aultman, 1 Apr (DT); Apharetra purpurea, 16-17 July & Aplectoides condita, 17-18 June, Long Pond (DS).

NEW JERSEY. BUTTERFLIES: Thorybes pylades, EARLY at Eldora, Cape May Co, 15 May; Euphyes dion, 8-12 July in calcareous fens in Sussex & Warren Cos (with Carex lucustris); Atrytonopsis hianna, Browns Mill, Burlington Co, 9 May, EARLY (all DS); Papilio cresphontes, Brighton, Sussex Co, 12 July (DS) [larvae common in this area on prickly ash ca. 1940, DW]; Epidemia e. epixanthe, Steelmantown and Head-of-River bogs, CAPE MAY Co, and near Hunters Mill, CUMBERLAND Co, 17 June 1984, and Sleeper Branch, Wharton S.F., CAMDEN Co, 26 June 1984 (DMW); 20 stands of Senecio obovatus checked in Warren & Sussex Cos yielded Calephalis borealis in only two, in Springdale, 10 July (DS).

MOTHS: Carposina fernaldiana, Rhyacionia aktita, Phaneta raracana, Eubaphe meridiana, Batsto, Burlington Co, 6 Sept (RL); Datana major and D. ranaecephs, large numbers 17 May, EARLY, Atsion, Burlington Co (DS); Crambidia lithosiodes, Batsto, 6 Sept (RL); Macrochilo hypocritalis, 8-12 July in calcareous fens in Sussex & Warren Cos, apparently associated with Carex section Stellulatae (DS); Hyponodes fractilinea, Batsto, 6 Sept (RL); Ptichodis bistrigata, Catocala gracilis, mature larva early on highbush blueberry at Atsion, Burlington Co, 17 May (DS); C. praecleara, last instar larva on Aronia arbutifolia, early at Belleplain, Cape May Co, 16 May (DS); Exyra rolandiana, ex pupa from pitcher plant, Johnsonburg, Warren Co, July (DS); Spartiniphaga carterae found at several sites in Ocean and Burlington Cos, always associated with Calamovilfa brevifolia (DS); Papaipema appassionata, Martha ruins, Burlington Co, 20 Sept; Iodopepla u-album frequent in Ocean & Burlington Cos in open wet areas, late Sept; Fagittana littera, Atsion, 17 May (earliest NJ date); Agrotis bucholzi, Atsion, 17 May (earliest authentic date); Eucrotonemis fimbriaris, common at yellow bug-repellant lights, Lebanon State Forest restrooms, not at blacklights, late Sept (all DS); Schinia spinosae, Batsto, 6 Sept (RL).

DELAWARE. BUTTERFLIES: RS reports sighting several Mitoura, 20 April, at Sowbridge Branch, near Milton, Sussex Co, sporting about the tops of large specimens of southern white cedar (Chamocyparis thyoides); binoculars were inadequate to define them without question as hesseli, but the absence of red cedar in the area makes such a possibility reasonable; this would be a STATE record.

MARYLAND. BUTTERFLIES: a very late (and large) E. clarus, Calvert Co, 11 Nov (JF); Thymelicus lineola, Woodland, ALLEGANY Co, 5 July (RS), and DORCHESTER Co, 14 June, first record from eastern shore (JF); Problema bulenta at latter location 15 June and thereafter (WG, JF); P. cresphontes, Cranesville, GARRETT Co, 16 July (DMW); Colias eurytheme, Calvert Co, 9 Dec, LATE (JF); C. interior, Cranesville, GARRETT Co, STATE, 13 July (RW, PK); Phoebis sennae not seen in 1985; Eurema lisa, Calvert Co, only once, 11 Nov, LATE (JF); E. nicippe, Sandy Hook, Washington Co, 19 Apr, rare instance of overwintering west of fall line (RS); Atlides halesus, population outburst near New Bridge, Dorchester Co, 15-30 June; females oviposited when confined with a dwarf mistletoe (Phoradendron sp.) on wetland maples, larvae matured readily thereon; adults commonly nectared at staghorn sumac and drank aphid honeydew at low-growing alders (PK); Calycopis cecropae, Calvert Co, 27 Oct, LATE (JF); M. gryneus, Seneca, Montgomery Co, 20 March, EARLY (WG); Strymon melinus added Rumex crispus to its long list of larval foodplants, wild-collected larva, late July, Whitehall, Anne Arundel Co (PK), Calvert Co, 20 Nov, LATE (JF); Speyeria idalia, Hancock, Washington Co, 7 July, only 1985 record, absent from expected locations (PK); S. atlantis, Cranesville, Garrett Co, 7 July 1983, first certain record for state (AP).

DISTRICT OF COLUMBIA. BUTTERFLIES: Asterocampa clyton ovipositing on Celtis laevigata, 400 yd from Hilton Hotel (GK).



ZONE 11 HAWAII/PACIFIC ISLANDS: Coordinator: J.C.E. Riotte [R]. Contributor: R.L. Langston [L]. Weather in 1985 was outspokenly on the dry side. The number of lepidoptera in general is still much lower than in normal years. Some species, however, are recovering.

OAHU: [L] found the population of Udara blackburni on Mt. Tantalus in Honolulu about the same as in 1978. He observed all the common butterflies (Papilio xuthus, Pieris rapae, Strymon bazochii, Lampides boeticus, Agraulis vanillae and Danaus plexippus) on both leeward and windward sides. [R] adds to this that Hylephila phyleus is still doing very well around the Honolulu suburbs and that Strymon bazochii could be observed even in downtown Honolulu at Lantana patches and that apparently the population of albino monarchs is growing. Among the latter, specimens of more clear white color were observed while in the specimens in collections a very light brownish hue is normal. Among the noctuids, a newcomer has to be noted: Othreis fullonia (Clerck) was collected for the first time near Hickman Airforce Base in January, and by November the bizarre larvae were already being collected in Alewa Heights, many miles away from the original locality, on Erythrina sandwicensis, the native Wili-wili tree. The "import" was probably from Guam. From previous "immigrants", Macroglossum pyrhostictum was observed by [L] on Mt. Tantalus.

KAUAI: Macroglossum pyrrhostictum was very common wherever the foodplant (Pedaeria foetida) was at hand [R, L]. Otherwise, it can be said as it was last year, collections were meagre in Kokee as well as in Lihue. Among the butterflies, [L] found Brephidium exilis, a new record for this island, at the Salt Pond Beach near Hanapepe, associated with the plant Batis maritima and at a locality E of Hanapepe, common, and associated with Atriplex semibaccata. Also Udara blackburni was found common at the Waimea Lookout by [L] in December, which might reinforce hopes for a slow improvement of the present conditions.

MAUI: [R] reports that the botanists of Bishop Museum checked the Nothocestrum latifolium plant on which the larvae of Manduca blackburni had been found in the previous year and were happy to report that there were again some larvae of the species on that same tree.

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ZONE 12 NORTHERN NEOTROPICS: MEXICO, CENTRAL AMERICA, ANTILLES. Coordinator: Eduardo C. Welling M. Contributors: Richard Holland and William L. Swisher. A generally poor year for collecting.

MEXICO. CHIHUAHUA: Holland collected at Janos, Ascensión, and Nuevo Casas Grandes in early April, finding Anthocharis cethura pima and Euchloe hyantis lotta. Searching extensively south of and on the road east of Nuevo Casas Grandes, and on Mex. highway 15, more than 60 kms south of Ciudad Juárez, he could not find any more colonies of these two species, making him believe that they do not occur in areas of the winter rainshadow of the Sierra Madre Occidental, in which these areas are. On Mex. highway 2 at the Chihuahua-Sonora state line he found Pieris sisymbrii, Euphydryas anicia hermosa (det. C. D. Ferris), and Anthocharis sara. Swisher made one trip to this state in early April, accompanied by Holland, looking especially for A. c. pima, after having made a trip in March to New Mexico and Arizona after the same sp. He sent a special report giving much valuable data on the project; interested persons might solicit a copy from him. A. c. pima was located 40 km northeast of Ascensión (1170 m elev), and at the Janos microwave tower, 10 km northeast of Janos (1600 m). Other sps. found at the Janos microwave tower locality were E. h. lotta, Pieris protodice, Battus philenor, Vanessa anabella, V. cardui, Strymon melinus, Colias eurytheme (on the road to the tower). Others 10 km northeast of Janos were Papilio polyxenes, E. h. lotta, P. protodice. At the San Luis microwave tower, on highway 2 on the Chihuahua-Sonora state line (2000 m), they took P. sisymbrii, Zerene cesonia, E. anicia hermosa, Callophrys augustinus annetteae, another Callophrys sp., Plebejus icarioides, and an Erynnis sp. 3 km east of the San Luis bridge on highway 2 (1800 m) they found E. a. hermosa, Celastrina argiolus, Emesis zela. 20 km south of Nuevas Casas Grandes (1500 m), the locality produced P. protodice, Chlosyne lacinia crocale, Texola elada perse. All Swisher-Holland records are from the first week of April. The Euphydryas anicia collected is not listed in C. C. Hoffman's Catálogo Sistemático y Zoogeográfico de los Lepidópteros Mexicanos (1940), therefore published Summary reports and the literature should be searched for prior mention of this species; if nothing can be found, Mr. Holland and Mr. Swisher must be given recognition for establishing a NEW RECORD for Mexico.

YUCATÁN, QUINTANA ROO, OAXACA: Personal observation by Welling and information received from individuals made for one of the poorest years on record. Indeed not even the commonest species of butterflies were common. In the Yucatán peninsula, Coleoptera were also about nil, with a few exceptions; in southern Oaxaca the pattern was about the same but with a few exceptions, i.e. Cerambycidae, some Anomala and Strigoderma (Scarabaeidae) etc.

SAN LUIS POTOSI: Welling made a blacklighting trip to oak forests in the mountains of this state, finding few good things and not some of the genera that were expected in late May (Catocala, Antherea, Actias, etc.); perhaps the first generation of many Saturniids had disappeared already.

GUATEMALA: Welling found butterflies drastically low just about everywhere, corresponding to the same conditions as in Mexico. Blacklighting at Baleu, Mpio. San Cristóbal Verapaz, Alta Verapaz (1200 m), in mid-August, yielded only one Automeris and three common Xylophanes in two weeks; other smaller moths were a bit more abundant but certainly very low in numbers.

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ZONE 13 SOUTH AMERICA. Coordinator: Boyce A. Drummond. Contributors: Keith S. Brown, Jr. (KS), Rick Worth (RW). KB's extensive report for 1985, presented here in full (there being only one other short report submitted), provides an update on several ongoing butterfly projects previously reported in the 1982 and 1984 Season Summaries. No moth reports or information on weather conditions were submitted for 1985.

COLUMBIA. VALLE DEL CAUCA. KB reported excellent collecting in July and September in the Cali region. Along the Rio Tatabro (near Aguasclaras on the Old Buenaventura road): Neruda godmani, a large new species of Philaethria, Nessaea (regina x aglaura), Eumaeus (minyae?) gigantea, and Dulcedo polita (a new species of Dulcedo occurs farther up the Anchicaya valley). Above and below Saladito and in Pance: many good species of Ithomiinae and Dismorphiinae and (in Pance only) Prepona praeneste. In the Rio Calima valley: Olyras insignis, Napeogenes cranto, N. tolosa diaphanosa, Godyris sosunga petersi, and a black forewing Laparus doris.

VENEZUELA. DISTRICT FEDERAL. Three visits (Feb., June, & Dec.) by KB to Caraballeda near the Caracas airport gave many Godyris kedema and Greta andromica (larvae of both species found on Solanum Sect. Geminata), Olyras crathis, Eutresis hypereia, Athesis clearista (eggs and larvae found on Capsicum), and many other Ithomiinae, plus Battus latinus (very common).

ECUADOR. PICHINCHA. On May 21, RW collected a single specimen of Agrias amydon zenodorus (ID by Paul Barselow) at Tinalandia (730 m elev.), a resort nestled in one of the last remnants of rainforest on the Western slope of the Andes, located 17 km E of Santo Domingo de los Colorados.

TUNGURAHUA. On February 10, in the Rio Blanco cloud forest near Banos (ca. 1900 m elev.), KB collected many Pronophilini and eggs and larvae of Velamysta cruxifera on Lycianthes sp.

PERU. JUNIN. KB made three visits to the very rich cloud forests near the Mina Pichita, located 20 km by trail above San Ramon in the Chanchamayo Valley. On February 25 the devastating effects of heavy rain on the landscape and butterfly populations showed good recovery with many larvae found; and on Sept. 26-28 excellent populations of many little-known species were encountered. Eggs and larvae were found for over 20 species of Ithomiinae; adult ithomiines collected included Tithorea tarricina tagarma; (New genus) canilla (Hyposcada-like larvae reared to adult on Lycianthes) and cleobulina; (New genus) susiana solida; Hyposcada cyrene (abundant) and olerioides; 10 species of Oleria, including deronda, attalia, and fasciata; Napeogenes cyrianassa gracilis and harbona domiduca; Hyalenna alidella and sulmona new ssp.; Velamysta pupilla; (New genus) derama; Dygoris dircenna; Godyris duilia and hewitsoni

ssp.; Greta sapho, ortygia ssp., and cyrilla ssp.; Pteronymia teresita denticulata, Pteronymia sp. nov., and P. pronuba (oviposited on Markea, reared to adult on Markea and Solanum). Other choice species taken included Cithaerias pyropina; Antirrhaea phasiana; Abananote erinome; 5 species of Altinote, including momina and griseata; Phycioides (Gnathotrusia) nundina and P. (Castilia) perilla; Dismorphia teresa; Patia rhetes; Graphium harmodius (♀), and Parides erlaces (puddling).

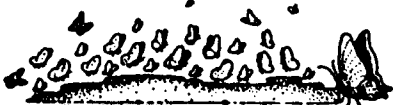
BRAZIL. SÃO PAULO. KB continued his study of the species-rich area of the Serra do Japi (850-1200 m) near Jundiá. It was an excellent season for Ithomiinae; highlights were the appearance of a Melinaea ludovica from the coast, abundant Hyalenna pascua from February to April (with all early stages of the latter found on Solanum Sect. Anthoresis on April 20), and the capture of several intergrades between Tithorea harmonia caissara and T. h. pseudethra. Actinote (of at least 6 species) were abundant in April, when all early stages were found and reared on various species of Eupatorium and Mikania. The season of maximum butterfly abundance, apparently created by opportunistic immigration of species from all sides, ended in May, when practically all ithomiine early stages collected (12 species in 10 genera) were parasitized. However, adult ithomiines were still very dense in the "pockets" in October, when many Graphium of 6 species (asius, protodamas, lysithous, bellerophon, nigricornis, doliceon) dominated the airspace.

RIO DE JANEIRO. KB continued work on the nearly extinct Graphium lysithous harrisianus, which mimics Parides ascanius, and finally located a second viable colony on 17 November in the Federal Biological Reserve, Poco das Antas, accompanying a good colony of P. ascanius and another of the threatened Golden Lion Marmoset. The model ascanius had also appeared on Aug 30, in this new colony, but only as a single male, before the mimics started flying. The yearly brood in this Graphium colony was not strong (in many days observation, only 43 seen and 13 marked, with no recaptures), and the morph ratio remained similar to that of 1984 (30 ascanius mimics, 13 nephalion/zacynthus mimics, one agavus mimic). Much of the vegetation in the colony area has been destroyed, and it may be nearly extinguished in 1986. This colony area also produced very abundant Graphium telesilau and several choice species of Castniidae in October. Attempts to discover whether Graphium iphitas still exists (last observed in the 1930's), by driving and walking in October over all areas near its former locality in central RJ, led to no sightings among the 20 species of Papilionidae recorded commonly, even though the vegetation in this area is still intact.

RONDONIA. KB visited the formerly very rich trail he worked in Jarú in mid-December but found only a few hundred meters still in forest, with very reduced species diversity and abundance. No equivalent areas were found in the vicinity, but the search will be expanded. The region of Colorado, in the extreme south of the state, continued to give Bolivian surprises in a very unusual, though not so diverse fauna.

PARA. KB collected for several days in the Serra dos Carajas (SW Para, 200-800 m) and added over one hundred species to the local list compiled last year. Special finds included Actinote pellenea, Erichthodes erichtho (ovipositing on Maranta), many Morpho rhetenor, Philaethria pygmalion on a scrubby hilltop near the iron deposits, a new subspecies of Heliconius hecale in the forest, Anaea eribotes, a new species of Theope among many unusual Riodininae, and larvae of Graphium ariarathes menes on an Annonaceae. On two visits to the Ilha de Mosquero north of Belem, KB found abundant Philaethria (of at least 2 and possibly 3 species), Eueides tales, and Heliconius melpomene (with genes from the (new) Marajo Island subspecies), and H. antiochus zobeide (common), as well as many Parides.

AMAZONAS. KB continued work in the various-sized reserves, inventoried before and monitored during the isolation process, in the "Minimum Critical Size of Ecosystems" project located in primary forest 80 miles north of Manaus (see SS Zone 13 report for 1984 for details). All 25 reserves were visited, and the regional list grew from 368 to 420 species (90% of the expected) during a further 323 man-hours of work (over 27 days) in September and December. The recently isolated 1-ha reserves were recovering at a normal (flat topography) or accelerated (protected west side) rate until November, when a slot wind from the west toppled half the trees (300) in each, destroying the protected side of the latter. In December, both reserves were very poor, but with many edge species and "colonizers" passing through, and totally dominated inside by Hypothyris euclea (more than 10,000 present in each hectare). Typical edge species were found in large internal treefall clearings (>0.1 ha) in various reserves and were studied in detail in December. A sandy-soil, low-canopy area ("campinarana") in the largest (10,000-ha) reserve proved very rich in Nymphalinae and Charaxinae (which often are not observed in a daily list in closed, high-canopy forest), including Prepona omphale and Agrias claudina. In one 100-ha reserve with very heterogeneous vegetation, a new high daily list (135 species) included 59 Riodininae and the first record of Antirrhaea ornata in the region. Other noteworthy or new species found in 1985 included Oleria enania (?) ssp., Eueides lampeto new ssp. (in large clearings in several reserves), Heliconius melpomene aglaope (from the SW; H. m. meriana from the north had been expected), H. demeter beebei in several reserves, Baeotus baeotus, Myscelia capenas, Anaea vicinia, "Thecla" bosora (many reserves) and porphyreticus, Eumaeus toxana (many reserves), Euselasia uzita and E. uria (at least 41 species of Euselasia have now been recorded), Calydna caieta and C. calamisa, perhaps the second known specimen of Dysmathia grosni, Xenandra (?) pulcherrima, Theope matuta, and a hybrid Nymphidium (lisimon x caricae). The present regional list includes 9 Morphinae, 10 Brassolinae, 42 Satyrinae, 2 Danainae, 21 Ithomiinae, 23 Heliconiini and 43 other Nymphalinae, 19 Charaxinae, 8 Pieridae, 10 Papilionidae, 69 Theclinae, and 164 Riodininae. Surprisingly, after 6 years of human disturbance and edge-making, the area still lacks such "typical Neotropical forest" genera as Caerois, Narope, Brassolia, Eryphanus, Caeruleptychia, Cepheuptychia, Tithorea, Aeria, Sais, Ithomia, Dircenna, Pteronymia, Hypoleria, Dione, Phyciodes s.l., Anartia, Siproeta, Hypanartia, Diaethria, Vila, Nica, Consul, Siderone, Dismorphia, Perrhybris, Melete, Archonia, Papilio s.l. (?), Helicopsis, Methone, Melanis, and almost all skippers. However, a raiding column of army ants (Eciton burchelli) observed on 5 December was accompanied by large numbers of the large skippers Chrysoplectrum perniciosum, Tarsoctenus papias and T. plutia, hovering over and landing next to the ant lines and the wreckage left by them. (The usual few individuals of Hypothyris, Pierella, and Magneuptychia tricolor were also following the ants.) A few kilometers away, another column of E. burchelli was accompanied by Pyrrhopyge rubricollis, and Myscelus was also observed.



Forthcoming Meetings

37th ANNUAL MEETING OF THE LEPIDOPTERISTS' SOCIETY

Ottawa, Ontario, Canada will host the 37th Annual

Meeting of the Lepidopterists' Society over the Memorial Day weekend, May 23-26, 1986. Please note that these are the correct dates. The dates printed in NEWS #6, 1985 were in error. If you plan to attend please send your registration form, from the last page of the Nov/Dec 1985 NEWS, to Don Lafontaine, Biosystematics Research Institute, Agriculture Canada, Ottawa, Ontario, K1A 0C6 Canada. Additional information can be obtained from Mr Lafontaine by writing to the above address or by phoning (613) 996-1665 days or (613) 225-1841 evenings. Donations for door prizes should be sent to Mr Lafontaine or brought to the meeting.

PACIFIC SLOPE SECTION MEETING

The DATE is Aug 1-3, 1986 and the PLACE is El Coronado Ranch in The Chiricahua Mtns of SE Arizona. Contact Julian Donahue, Natural History Museum, 900 Exposition Blvd, Los Angeles, California 90007 for further information.

1986 XERCES SOCIETY 12th ANNUAL MEETING

Pilgrim Firs, a camp conference center on the Kitsap Peninsula across Puget Sound from Seattle, Washington will be the site for the 1986 Annual Meeting of the Xerces Society, June 4-8. Scenery is fantastic and there will be interesting Pacific Northwest field trips and excursions and ample opportunity for black lighting for moths and/or butterfly collecting, weather permitting. Accommodations range from private rooms (\$23 per person per day) to group cabins (\$18.50 per person per day) plus a one time linen fee of \$4.00. Included in the daily per-person fee are 3 meals prepared and served in the camp dining hall. The meeting will begin Wednesday evening, June 4, after dinner and last through noon on Sunday June 8. For further information contact R.M. Pyle, Swede Park, 369 Loop Rd, Gray's River, Washington 98621. Phone (206) 465-2539.

From The Editor's Desk

June Preston



In January, I received a letter from Eric Danell of Sweden, who although not a Society member, had been advised by Dr Asher E. Treat of Massachusetts, who is a Society member, that possibly someone in the Society could come up with some answers to his questions concerning some observations of a lepidopterological phenomena. Mr Danell's letter follows. If anyone has comments, please send them to him. Also included in this issue is the last letter I intend to print concerning Common Names. Enough feathers have been ruffled already and it is time to call a halt to any more references to that subject.

As always, the letters printed here express solely the opinions of their authors and do not in any way reflect any policies of The Lepidopterists' Society.

Dear Mrs Preston

As an amateur lepidopterist, I have occasionally discovered aberrant hind legs among the noctuids of Uppland, a province in east Sweden. It is always both hind tibiae that are abnormally bent, and the divergence from a normal pair of hind legs is often very distinct.

The defect affects many genera; *Agrotis*, *Polia*, *Leucania*, *Hydraecia* etc. At the present time we have no good theories and very few data here in Uppsala. I have written to Dr Treat in Tyngham, Massachusetts, about this phenomenon. He has also noticed this obviously common form of aberration, especially in the armyworm *Pseudaletia unipuncta* (Haworth). There are no published examinations as far as he knows, and I have not found anything either.

This malformation might be a result of a genetical defect (translocated chromosome sequences for example) or a damage during or directly after the pupal stage when the chitin is flexible. There are legitimate objections to both theories though. I guess that this abnormality does not cause any severe disadvantages to the moth, but the phenomenon is interesting enough for making a closer study. At this initial stage, all theories and observations are valuable and will be gratefully received. Please write directly to me!

Yours sincerely, Eric Danell
Elin Wagnersg. 9
S-754 41 Uppsala, SWEDEN

Dear June,

Re: More Bornean Fish. One among the ongoing Common Names melee's most recent contributions (News #6, 1985, pp. 74-75) beckons for retort by anyone lexically inclined in the Society's ranks. With but a few hastily penned samples, Mr. Scott tries to bale much hay over perceived inappropriateness of latinized names. What roughage indeed!

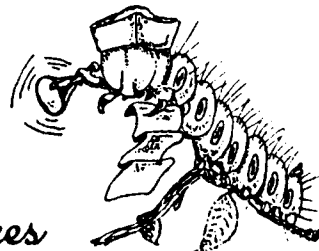
One of the potentially tantalizing side issues of lepidopterological discovery is the opportunity to coin a new latinized name. Such opportunities now arise only infrequently, of course, in this heyday of well-understood (hah) alpha-level butterfly taxonomy. These can be opportunities for play. Moreover, these can be opportunities to relay stories through names. The shame of it all is that more entomological etymologies are not recorded in ODS.

Back in yonder years, when names flowed more freely, entire nomenclatorial protocols even ebbed and flowed in the literature. One often named according to the convention at hand for a genus. Thus chronicled at the species level were loved ones and mistresses in the *Catocala*, and the titans of ancient civilizations in the *Boloria*, to note a few. Enterprising treatises on such spicily subjects are readily available for consumption (see Sargent's *Legion of Night* for the underwing overture). Nor do latinized names themselves hold a monopoly on taxonomic word play: one recalls Klots' foreign-tongued Alpine, who sallied right past the watchful eyes of his *Field Guide's* editors; and the terse verse of Burn's *BioGraffiti* (what gems await the decoders of those words). Incidentally, while the opportunity for naming may be scarce, the opportunity for new and appropriate names remains virtually unchecked, bounded only by the limits of creativity. A profitable spot for the curious taxonomist to dig in is any compendium of latin and greek roots.

So, how dare Mr. Scott malign the likes of *estellae* and *milberti* (or the Bornean fish, for that matter)! These folks were near and dear to the namers and their colleagues of the time, and still are to latter-day historians, though to Mr. Scott each represents little more than "some obscure person no [one] has ever heard of." The Society's late, esteemed founding co-father -- Harry Kendon Clench -- might well have winced upon hearing his patronymic *Harkenclenus* put by Mr. Scott to tasks such as mopping the floor. For all Mr. Scott knows, since it's doubtful he's done his Boisduvalian homework, *lupini* may really honor nectaring preferences, not foodplants. And I should know that the Uncompahgre Fritillary's latinized name lives on not nearly so much for its metaphorical windswept homeland -- the "top of the mountain slope" (spare me the false hyper-empiricism) -- as for its 2-word, abbreviated genitive acronym (sic) anagrammable from the unconformed masculine *acrocnemus*.

A pox on the pejorative of the unenlightened. History always has the last laugh, and, Mr. Scott, who's to say she wouldn't rather string up your *Plebejus lupini* form "transvestitus?"

Lawrence F. Gall
Yale University
New Haven, CT



Notices

JOURNAL UPDATE

The next issue of the JOURNAL of the Lepidopterists' Society, Vol 39, #3 will probably be out in May and Vol 39, #4 will possibly follow by July.

PUBLIC EXHIBIT ON MONARCHS

"A MULTIPLICITY OF MONARCHS" is the title of a Public Exhibit to be held from September 6 till November 30, 1986 at the Natural History Museum of Los Angeles County, 900 Exposition Blvd, Los Angeles, California 90007. Coinciding with the annual migration of Monarch butterflies from their breeding grounds in Western North America to overwintering clusters on the California coast, this magnificent exhibit features exquisite photographs by renowned naturalist/photographer George Lepp. Field trips to witness this natural event, designated a "Threatened Phenomenon" are among the activities scheduled during the exhibit. Contact the Museum for further information.

SECOND INTERNATIONAL CONFERENCE ON THE MONARCH BUTTERFLY

The Natural History Museum of Los Angeles County will host the Second International Conference on the Monarch Butterfly on September 3-5, 1986. The conference is open to the public. Worldwide biology and conservation of *Danaus plexippus*, a migratory species designated a "Threatened Phenomenon" will be discussed. For further information contact Julian Donahue, Natural History Museum, 900 Exposition Blvd., Los Angeles, California 90007, U.S.A. Phone (213) 744-3364.

1986 ELECTION RESULTS

Members cast a total of 476 ballots in the Society's 1986 election, representing a return of 30.9% from 1,538 members prior to the deadline on 15 January 1986 (compared with a 33% return in 1985 and a 40% return in 1984). The results are tabulated below, the successful candidates indicated by an asterisk (*): all assume office at the Annual Meeting in Ottawa, Ontario, on 26 May 1986, except for the Secretary whose term officially began retroactively to 1 January 1986.

The Society extends its congratulations to the winners and thanks all candidates for their willingness to serve the Society.

PRESIDENT ELECT	
*Douglas C. Ferguson	246
Roy O. Kendall	222
abstain & void	8
VICE PRESIDENTS (3)	
*Gerardo Lamas	418
*Ebbe Schmidt Nielsen	418
*Olaf H.H. Mielke	409
total abstentions	35
write-in	1
EXECUTIVE COUNCIL MEMBERS-AT-LARGE (3)	
*Paul A. Opler	443
*Richard L. Brown	431
*M. Deane Bowers	425
total abstentions	24
write-ins	2
SECRETARY	
*Richard A. Arnold	298
Steven Mueller	155
abstentions & void	23
KARL JORDAN MEDAL REPRESENTATIVE	
*John C. Downey	417
abstentions	59
CONSTITUTIONAL AMENDMENT (remove limitation on number of terms the Secretary and Treasurer may serve; 66-2/3% affirmative vote required):	
*Yes	385 (81%)
No	42
abstain	49

OFFICERS OF THE SOCIETY ARE NOW AS FOLLOWS:

Through 26 May 1986

President	Clifford D. Ferris
President-Elect	Douglas C. Ferguson
Immediate Past President	Don R. Davis
Vice Presidents (3)	Edward M. (Ted) Pike
	Jerry A. Powell
	Allan Watson
Secretary	Richard A. Arnold
Treasurer	Eric H. Metzler

After 26 May 1986

President	Douglas C. Ferguson
Immediate Past President	Clifford D. Ferris
Vice Presidents (3)	Gerardo Lamas
	Olaf H.H. Mielke
	Ebbe Schmidt Nielsen
Secretary	Richard A. Arnold
Treasurer	Eric H. Metzler

EXECUTIVE COUNCIL MEMBERS-AT-LARGE:

(term expires at annual meeting in year indicated)

1986	1988
John M. Burns	Mirna M. Casagrande
Floyd W. Preston	Edward C. Knudson
Jacqueline Y. Miller	Frederick W. Stehr
1987	1989
Boyce A. Drummond III	(assume office 26 May 1986)
John Lane	M. Deane Bowers
Robert K. Robbins	Richard L. Brown
	Paul A. Opler

EDITORIAL COMMITTEE:

JOURNAL Editor:	William E. Miller
NEWS Editor:	June D. Preston
MEMOIRS Editor (Chairman)	Charles V. Covell, Jr.

ICZN

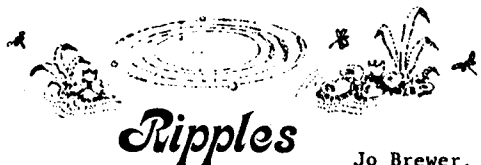
The Commission, as of Dec 14, 1985, gives 6 months notice of the possible use of its plenary powers in the following case, published in the Bulletin of Zoological Nomenclature, vol 42, part 4 on 6 December, 1985, and would welcome comments and advice from interested zoologists. Correspondence should be addressed to the Secretary, P. K. Tubbs, c/o British Museum (Natural History), Cromwell Road, London, SW7 5BD, England within 6 months of the above date, using reference number ITZN 11/5 A.N.(S.) 136.

Case No. 2496: HETEROGYNIDAE Rambur, 1866 (Insecta, Lepidoptera) and HETEROGYNINAE Nagy, 1969 (Insecta, Hymenoptera): Proposals to remove the homonymy.

The following opinions have been published by the International Commission on Zoological Nomenclature in the Bulletin of Zoological Nomenclature, volume 42, part 4 on Dec 6 1985; References number ITZN 59. The Commission regrets that it cannot supply separates of opinions.

Opinion No.	
1354 (p. 330)	<u>Agrotis redimicula</u> Morrison, 1874 (Lepidoptera): conserved from 1874.
1361 (p. 349)	<u>Larentia capitata</u> Herrich-Schäffer, 1839, given nomenclatural precedence over <u>Phalaena posticata</u> Fabricius, 1794 (Insecta, Lepidoptera).
1362 (p. 351)	<u>Phalaena coracina</u> Esper, 1805, given nomenclatural precedence over <u>Phalaena hirtata</u> Fabricius, 1794 (Insecta, Lepidoptera).





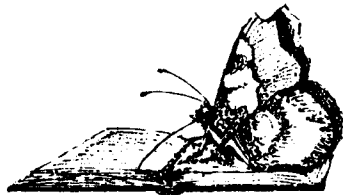
Jo Brewer, Ed.

Dear Ripples Editor:

I was quite interested by John Heppner's note in the NEWS #3 of May/June 1984, concerning the behavior of *Pachysphinx modesta* Harris. During a collecting trip to southeastern Peru in May '84, I observed sphingids on two separate occasions dipping their abdomens in small, shallow rain pools formed on the surface of the dirt road connecting Cuzco with the small jungle town of Pilcopata. The moths were seen flying swiftly in late afternoon (about 5:30 pm), close to the ground, repeatedly hitting the water surface of several pools, in a very similar way to that described by Dr Dunkle in Heppner's note. I succeeded in collecting one specimen, which turned out to be a fresh male of the small species *Aellopos ceculus* (Cramer). The locality was Quebrada Quitacalzón, Cosnipata valley, Cuzco, 1050 m, 15 May 1984.

Gerardo Lamas, Museo de Historia Natural, UNMSM, Apartado 11434 Lima-14, PERU

Books



PRE PUBLICATION NOTICE:

The Butterflies of North America, A Natural History Field Guide by James A. Scott is scheduled to be published this June by Stanford Univ. Press. Every species (and many subspecies) of butterfly ever recorded north of Mexico or in Bermuda or Hawaii is treated at length and illustrated in color. Over 1,800 butterflies are pictured on 42 color plates. Another 136 color photographs illustrate the various life forms in natural habitat: eggs, larvae, pupae and the more spectacular adults. An unusual feature finds the butterflies all arranged on the plates according to overall appearance, rather than by genetic relationships; thus, for example, yellow butterflies are all together or checkered ones are with other checkered ones, independent of the family to which they belong. The book has been written at several levels of detail, most of it accessible to anyone, and employs only those technical terms necessary to scientific accuracy. Extensive introductory material stresses butterfly biology and ecology, structure flight, physiology, metamorphosis, hibernation, migration, mimicry, evolution, distribution and conservation. The main text is arranged in phylogenetic sequence. Identification of specimens should be easier with this than with any other Field Guide. Detailed distribution maps are provided, line drawings clarify body parts relevant to identification and illustrate egg, larval and pupal shapes of scores of representative species with keys for identifying young larvae, mature larvae, pupae and adults. The book contains a catalogue of all known host plants and the specific butterfly larvae that eat them and lists techniques for collecting, raising and studying butterflies. There is a bibliography of butterfly and plant books and a comprehensive index. There will be 632 pages plus 64 color pages. The price is \$49.50. For further information contact Stanford University Press, Stanford, California 94305. Phone (415) 497-9434.

BOOK NOTICE:

THREATENED SWALLOWTAIL BUTTERFLIES OF THE WORLD. THE IUCN RED DATA BOOK by N. Mark Collins & Michael G. Morris. 1985. vii + 401 p., 8 color plates with photos of 40 threatened and rarely photographed species; hardbound, size 6-1/4 x 9-1/2" (16 x 24 cm). Includes a

complete list of all 573 species of Papilionidae of the world, of which 77 species considered threatened are reviewed in detail. Gives full data on threats, distribution, trade and ecology plus geographical analysis. Short print run says author, so order early to avoid disappointment. IUCN Conservation Monitoring Centre, 219(c) Huntingdon Road, Cambridge CB3 0DL, England: L18.00 pounds sterling or \$28.00 U.S., postpaid. [In U.S.A., Canada, and Latin America also obtainable from UNIPUB, Box 1222, Ann Arbor, Michigan 48106, USA.]

New Members



- ASHLOCK, MICHAEL S.: 746 Alcatraz, Oakland, CA 94609.
 BISCONTI, JOE: 132-35 87th Street, Ozone Park, NY 11417.
 DANKERT, NEIL: P.O. Box 1862, Kearney, NE 68847.
 FITZJOHN, J.: 60 Newcome Road, Shenley, Radlett, Herts. WD7 9EJ, ENGLAND.
 GARDNER, RICHARD C.: 484 Woodland Avenue, #10, Los Gatos, CA 95030.
 HARTLEY, PAUL: 171 Langton Street, #2, San Francisco, Ca 94103.
 HEARIN, W.B.: 9905 S.W. 125th Avenue, Miami, FL 33186.
 NAVARRO, FERNANDO: Fundacion Miguel Lillo, Miguel Lillo 251, 4000 San Miguel de Tucuman, ARGENTINA.
 NICHOLS, BARRY: 7004 Ethan Allen Way, Louisville, KY 40272.
 SOMMERFELD, STEPHEN: 462 East Willow Avenue, Salt Lake City, UT 84107.
 STOCKTON, ABBY: 505 Idaho Avenue, #12, Santa Monica, CA 90403.
 THURSTON, RICHARD B.: 475 Tunnel Road, Vernon, CT 06066; home phone (203) 646-7616.
 TUCKER, JAMES R.: P.O. Box 5013, Cottonwood, CA 96022.
 WILLIAMSON, ALFRED J.: 3525-A Bahia Blanca West, Laguna Hills, CA 92653.

Address Changes



- BAILOWITZ, RICHARD: 2774 West Calle Morado, Tucson, AZ 85745.
 BAKER, DAVID C. (Dr.): 2315 Antietam Avenue, Tuscaloosa, AL 35406.
 BECK, ANDREW F.: 5181 Camille Ave, Jacksonville, FL 32210.
 BOSCOE, RICHARD W.: 150 Ridge Pike #A101, Lafayette Hill, PA 19444.
 CHANNING, MICHAEL D. (Dr.): 2431 Fairmount Avenue, La Crescenta, CA 91214.
 EBERLIE, W.J.D.: 117 King Street East, Apt. 4, Cobourg, Ontario K9A 1L2, CANADA.
 GONZALEZ, J.J.: Route 4, Box 243-A, Fayetteville, TN 37334.
 GREY, L. PAUL: Route 1, Box 1925, Lincoln, ME 04457.
 HILANNE, INTO: Saveltie 5 F 60, 00720 Helsinki, FINLAND.
 HOLLEY, F.E.: 2304 North Monitor, Chicago, IL 60639.
 HOLMES, JAMES P.: St. Paul's School, Box 514, Concord, NH 03301.
 KOERBER, THOMAS W.: P.O. Box 992, Berkeley, CA 94701.
 LUDVIGSEN, CAL: 2757 Vista Buena Court, Fairfield, CA 94533.
 MACFIE, JEAN: P.O. Box 609, Hamilton, GA 31811.
 McDERMOTT, JAMES R.: 6500 Cockrell Hill Road, #1028, Dallas, TX 75236.
 MUELLER, STEVEN J.: 13010 Northland Drive, Cedar Springs, MI 49319.
 OKUBO, KIYOSHI: 14-18-871, Futami-cho, Nishinomiya City, Hyogo 663, JAPAN.
 PANZER, RON: 16248 South Grove, Oak Forest, IL 60452.
 PFENNINGER, PAUL F.: 4085 Floral Drive, Boynton Beach, FL 33436.
 PEELER, WILLIAM H., III: 2600 First Avenue, Merced, CA 95340.

SCHIKORA, RICHARD D.: 1455 Bills Drive, Beaver Creek, OH 45385.
 SLEETER, RONALD T.: 1314 Florence, Clinton, IA 52732.
 SMITH, MICHAEL J.: 5407 Orinda Avenue, Las Vegas, NV 89120.
 TASHENBERG, E.F.: 217 Lambert Avenue, Fredonia, NY 14063.
 WALAS, JOHN P.: 844 Red River Road, Apt. 810, Thunder Bay, Ontario P7B 5K4, CANADA.
 WESTOVER, LAYNE J.: 3408 Wildrye Drive, College Station, TX 77840.
 ZAKHAROFF, NICK: APR: 52 - San Vito, Coto Brus, COSTA RICA.

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 1986 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 calls for a self addressed stamped envelope.

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

WANTED FOR EXCHANGE ONLY: To establish contact with collectors/breeders throughout the earth interested in a free exchange of material (specimens and/or livestock). I am building an earth-wide collection of the Saturniidae and can offer in exchange a variety of material from this and other families. Please write of your interests. Stephen Miller, 17876 Oak Way, Grass Valley, CA 95945.

FOR SALE: Literature on Lepidoptera. S.A.S.E. for listing. Russell Rahn, 3205 W. Rochelle Rd., Irving, Texas 75026.

FOR SALE: Moth pupae. SASE for price list. John M. Coffman, Route 1, Box 331, Timberville, VA 22853.

BOOKS FOR SALE: Butterflies in Thailand; Vol 1 - Papilionidae & Danaidae, \$15.00; Vol 2 - Pieridae & Amathusiidae, \$15.00; Vol 3 - Nymphalidae, \$20.00; Vol 4 - Lycaenidae, \$20.00; Vol 5 - Hesperidae, \$20.00. All prices include packing and postage by surface mail. Contact Bro. Annunay Pinratana, St. Gabriel's College, Bangkok 10300, Thailand.

FOR SALE OR EXCHANGE: Ova of Graellsia isabellae, cocoons of Citheronia hamifera (Fr. Guiana). Exchange for ova of uncommon Saturniidae (South American, mainly). Also WANTED: Contacts with anyone who can supply ova of exotic Saturniidae (especially Copaxa titaea, Rothschildia, Automeris, Dirphia, Sysphinx) and with anyone travelling to South America in 1986. D. Herbin, 27 Les Platanes, 31320, PECHABOU, FRANCE.

FOR EXCHANGE OR SALE: Livestock of the most beautiful and rare Emperor Moths (Saturniidae) for delivery during the summer-months. The following species will be available. Giant-sized cocoons of Argema mittrei (Comet Moth); ova of A. mittrei, Graellsia isabellae, Saturnia atlantica, Imbrasia cytheraea, I. wahlborgi, Gonimbrasia tyrreha, G. i. hoeneli, G. zambesina, A. edwardsii, G. maia, R. jorulla and other species, all easy-to-rear on common foodplants. Also available, livestock of rare European butterflies, Sphingidae and other moths. Please write for more details. I am especially interested in exchanging for world-wide Saturniidae livestock and all correspondence with breeders throughout the earth will be welcomed. Helmut Probst, Augsburg Str. 7, D-8939 Tuerkheim, West Germany.

FOR SALE: Large numbers of books and journals about insects, principally butterflies and moths. Please write for list. Dennis Groothuis, 2452 Prairie Ave., Evanston, IL 60201.

FOR SALE: Wild collected cocoons of H. cecropia. A S.A.S.E. appreciated. James Romer, 7991 E. Hampden Circle, Denver, Colorado 80237.

FOR SALE: 28 wooden insect cabinets in good condition, each with 24 drawer capacity (Cornell type); 15 with drawers included and 13 without drawers. Buyer must provide transportation. Located in Smithsonian Institution, Washington, D.C. If interested, contact Bill Rowe at (202) 357-2634 or 2865, 7 AM to 3:30 PM EST.

FOR EXCHANGE OR SALE: Some of the more difficult to obtain African Papilios such as P. jacksoni ♂, P. gudenusi ♂, P. hesperus ♂, P. leucataenia ♂, P. grosse-smithi ♀, gr. evombar ♀. In U.S.A. please send S.A.S.E. Tom R. Sullivan, Box 851, Newport, Rhode Island USA.

FOR EXCHANGE: Small quantities of P. modesta, P. sexta, P. quinquemaculatus and A. luna pupae. Also L. archippus larvae in overwintering hibernaculum. Prefer ova, larvae and pupae in exchange. John W. Morris, 217 Parsons Rd., Camillus, New York 13031.

WANTED: To buy, native North Dakota H. cecropia cocoons. Frederick S. Howell, 112 Eastern Fork, Longwood, FL 32750.

FOR EXCHANGE - Australian butterflies. Also FOR SALE - 1500 Alcidas zodiaca A-1 condition ♂♂. Best offer. G. Wells, 23 Barakee Street, Marsden, 4203 Brisbane, Queensland, Australia. Ph. 200-9656.

WANTED: Cocoons of A. polyphemus, any locality. Have cocoons of H. euryalus from central Sierras and A-1 papered males of S. mendocino, for trade. Also FOR SALE: BOOKS, duplicates from my library. All are in very good condition, some with original dust covers. "Insects of Western NA", Essig, O.E., 1936; "Colored Plates of the Butterflies of the West Coast", Wright, W.G., 1907; "Audubons Butterflies, Moths and Other Studies with Entomological Details", Ford, Alice, 1952; "Legion of the Night", Sargent, T.D., 1976; "The Butterfly Book", Holland, W. J., 1898. Make offers. Ralph E. Wells, 304 Hoffman St., Jackson, CA 95642.

FOR SALE: Butterflies from Southern California. Free list on request. Robert Wuttken, 2710½ Highland Ave., Santa Monica, CA. 90405.

WANTED: A few live S. cynthia cocoons found in the wild. Please write stating your price to Pearl M. Eslinger, 4300 Alan Drive, Terre Haute, IN 47802.

FOR SALE: Ova of Actias luna, A. selene, Automeris io, Papilio troilus and a few other species. Please send a SASE for reply. WANTED TO BUY OR EXCHANGE: ova of Hyalophora columbia. Mark A. Howe, RR#1, Box 217, Lake Village, Indiana 46349.

NOTICE: I will be spending the summer in the Yukon collecting for my own research but will sell 90% of my catch or will collect to order to help pay my cost. Prices will be very reasonable. Send S.A.S.E. for list of possible species and prices. David K. Parshall, 4424 Rosemary, Columbus, Ohio 43214.

EXCHANGE ONLY: Wanted: Erebia, Oeneis, Parnassius from North America and from Japan and Erebia patagonica. Offer numerous species from France and Europe.. P. Willien, 37 rue de la Republique B.P. 37, F.69171 Tarare cedex, France.

FOR SALE (at least gen. good condit., ex. as noted): Urquhart, The Monarch Butterfly (hardcover), \$45. Essig, Insects of W. No. Amer., \$45 (bind. dilap.) & \$75. Moths of Am. N. of Mex. (all less than 1/2 current price new): Oecophoridae [fascicle (f.) 6.2], \$25; Pyralidae: Scopariinae, Nymphulinae, Odontiinae, Glaphyriinae, Evergestinae (f.s. 13.1a, 13.1b & 13.1c, as set), \$36; Pyralidae: Pyraustinae: Pyraustini (f.s. 13.2a & 13.2b, as set), \$32; Apatelodidae, Lasiocampidae, Bombycidae (f. 20.1), \$14; Saturniidae (f.s. 20.2a & 20.2b, as set), \$31.20; Sphingidae (f. 21, front cover a little dog-eared), \$12. Postage and insurance extra. Martin Kellogg, 6678 Sueno, Isla Vista, CA 93117-5005, U.S.A.

EMPLOYMENT WANTED: Will do time-lapse photography of all stages of living Lepidoptera. 4½ years experience! Contact RANDY ROBINETTE, 7302 Midland Trail Rd, Ashland, KY 41101. Phone (606) 928-5349.

FOR SALE - Books - Journals - Newsletters SASE for price list. LBS, P.O. Box 10083. Merrillville, IN 46411.

FOR SALE OR TRADE: Ova of *A. io neomexicana*, *A. pamina*, *A. zephria*, *A. polyphemus oculea* [New Mexico variety] and *H. gloveria* [New Mexico variety]. Also available *H. hera magnifica* papered. Ova available late May and June. SASE for prices. Will only trade for exotic Saturniidae. Jim Coleman, 5812 Leta Rd. N.E., Albuquerque, New Mexico, 87107 U.S.A.

FOR SALE: Lack of space and the expense of storage necessitates specialization, resulting in the sale of approximately 6,000 unwanted papered butterflies plus a few moths. Most are with full data and are in excellent condition. Unidentified and unsorted with a very fair proportion of medium/large species including Papilios and Nymphalids. Collected by myself in Nepal, India, Kenya, Hong Kong, Malaya, South America, Belize, Panama, UK, Germany, Alps, Spain, Gibraltar, Morocco, Cyprus, Corsica etc etc. Suitable for collector. Unwilling to split. OFFERS to W J Tennent BEM FRES, 1 Middlewood Close, Fylingthorpe, Whitby, N Yorkshire, England.

FOR SALE: a few pairs of Teinopalpus imperialis A1 condition, (2) Bhutanitis lidderdalei males A1, (5 pairs) Parnassius charltonius, (10 pairs) P. epaphus. Also from Utah, Parnassius phoebus (pairs), P. clodius, Papilio bairdi f. bairdi & brucei (pairs), and P. zelicaon (pairs). If interested, please send offer. Wayne H. Whaley, Wymount Terrace 6B-349 Provo, UTAH 84604.

FOR SALE OR EXCHANGE: Riker Mounts, Used but most are in excellent condition. Sizes 8X12, 12X16, 14X21. Best Offer or will trade for Parnassius, Colias and Lycaena and Oeneis subspecies. Also WANTED: Parnassius phoebus golovinus, Parnassius phoebus alaskaensis, Parnassius phoebus apricatus, Parnassius clodius strohbeeni. Send asking price to: Marc L. Grinnell, 1137 Riebli Rd., Santa Rosa, California 95404, U.S.A.

AVAILABLE: New issues of PAPILIO (new series). #3, Distribution of Caribbean Butterflies, including lists of each species on all 65 islands, 28 pgs, \$1.50; #4, Larval Hostplant Records For Butterflies and Skippers (mainly from Western U.S.), with notes on their Natural History (many new host plants), 40 pgs, \$2.00; #5, The Courtship of Phyciodes and The Relationship between Phyciodes tharos tharos and P. tharos morpheus (=pascoensis) in Colorado, 8 pgs, 50c. All 5 issues \$5.00, James Scott, 60 Estes St., Lakewood, Colorado 80226.

FOR SALE: Large or small numbers of Hyalophora gloveri cocoons collected in the mountains of Utah. Or WILL TRADE for some species of Saturniid pupae or moths. Bruce Duncan, 5821 So. 2150 West, Roy, Utah, 84067.

WANTED TO BUY: Large series of papered American Saturniidae, Papilionidae, Erebia, (also cocoons) and all Coleoptera. All correspondence will be answered. Michel FRENEY, 43 rue Charles de Gaulle, 49440 CANDE, FRANCE.

EXCHANGE CONTACTS WANTED: I am looking for exchange contacts with worldwide specialists in Parnassiinae and Colias. I have at my disposal living material (ova and pupae) and imagoes of Parnassius, Zerynthia, Allancastris and Archon. I would like to exchange them for other Parnassiinae sp and ssp of the better kinds. Nardelli Uberto, Via Cosma e Damiano 9/2, I-38100-Vela-TRENTO, ITALY.

MEMBERS' COMMERCIAL NOTICES....

RONALD N. BAXTER (ENTOMOLOGISTS) 45 Chudleigh Crescent, Ilford, Essex, IG3 9AT, England. Suppliers of living stages of Phasmodae and Lepidoptera; dead stock of coleoptera, lepidoptera and miscellaneous insects; books. Yearly subscription to my lists is \$2 (cash) sent by Air Mail. New contacts always sought.

CHANG PI-TZU, P.O. BOX 873 Taipei, Tawian 100, Republic of China: Selling Formosan papered butterflies, moths, beetles and other insects for collection and art work. Butterflies with paper body for art work, and educational aids. Living cocoons and pupae of Saturniidae moths and butterflies. Living ova of Saturniidae. Butterfly aberrations and sexual mosaics.

MIGUEL SERRANO - 4520 N. Matanzas Ave., Tampa, FL. 33614 - Rare bred Papilio, Anetia, Anaea, Prepona, Heliconius, Brassolidae from El Salvador. Papered only, with data. Also other tropical American material. Send stamp for lists.

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THAI PAPILIO CO, LTD (M.D. Adam Cotton), 54 Doi Saket Gao Road, Tambon Wat Get, Amphoe Muang, Chiang Mai 50000, Thailand. Phone 053-243008. Giant 5-horned rhinoceros beetles (Eupatorus gracillicornis) available in large numbers along with the rarer E. siamensis, plus many other beetles, butterflies and insects of Thailand. All specimens with data; A1 and A1B specimens available. Wholesale pricelist available free on request to dealers only. Visitors also welcome in Chiang Mai. Also, SOLID TEAK CABINETS FOR SALE, top quality, large drawers, suitable for butterflies, insects, minerals, etc. 10 drawer size and 20 drawer size. Can also be made to specifications. Write for price list and further information.

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

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INFORMATION ABOUT THE SOCIETY.....

Membership in the Lepidopterists' Society is open to all persons interested in any aspect of Lepidopterology. Prospective members should send the TREASURER, Eric Metzler, 1241 Kildale Square North, Columbus, OH 43229, USA, the full dues for the current year, \$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 \$350. 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, USA.

Information on Membership and other aspects of the Society must be obtained from the SECRETARY, Dr. Richard A. Arnold, 50 Cleaveland Rd, #3, Pleasant Hill, California 94523, USA.

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

Manuscripts submitted for publication in the JOURNAL are to be sent to Dr. William E. Miller, EDITOR, JOURNAL of the Lepidopterists' Society, Department of Entomology, University of Minnesota, St. Paul, Minnesota 55108, USA. See the inside back cover of a recent issue of the JOURNAL for editorial policies.

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AVAILABLE PUBLICATIONS OF THE SOCIETY..... Order from the PUBLICATIONS COORDINATOR, Ron Leuschner, 1900 John St., Manhattan Beach, CA 90266, USA.

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

COMMEMORATIVE VOLUME, 1947-1972: a 25-year review of the Society's organization, personnel, and activities; biographical sketches; JOURNAL 25-year cumulative index by author, subject, and taxon; clothbound. Members and subscribers, \$6; non-members, \$10, postpaid.

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

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