

of the Lepidopterists' Society

Editorial Committee of the NEWS

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ANNUAL SUMMARY IN THIS ISSUE

ANNUAL MEETING

The Annual Meeting of the Society, which was announced in the 1 March NEWS, will be a combined meeting of the entire Society and the Pacific Slope Section. It will be the 14th annual meeting of the latter, and the 18th annual meeting of the Society as a whole. A good attendance is anticipated. If you do not have a copy of the previous announcement, the meeting will be at Oregon State University, Corvallis, Oregon, June 24-25, with a probable informal dinner on the night of June 23. Information on accommodations may be secured from the Chamber of Commerce, 350 Jefferson Street, Corvallis, Oregon, 97330. Other questions should be addressed to the Chairman of Local Arrangements, Dr. Ernst J. Dornfeld, 3415 Crest Drive, Corvallis, Oregon, 97330. Titles of papers should be sent to E. J. Newcomer, 1509 Summitview, Yakima, Washington, 98902, not later than May 15.

RESEARCH NOTES

NEEDED FOR RESEARCH: Information concerning Euphydryas anicia ssp. from Southeastern Wyoming for study of this sp. in that area: need records of capture and any other information which can be supplied. Also desire pinned or papered specimens, on loan or otherwise. Richard Hardesty, 404 North 5th St., Douglas, Wyo., 82633.

WANTED: Viable ova of C. angulifera, E. calleta, R. orizaba, R. forbesi, R. jorulla, H. columbia, A. pamina, A. leucane, C. pandora, H. nevadensis, A. stigma, A. senatoria, A. rubicunda, C. regalis, C. sepulchralis, E. imperialis, Apantesis spp., E. deflorata, G. isabella. Will buy or exchange for other spp. Robert S. Bryant, 522 Old Orchard R., Baltimore, Md., 21229.

NOTICES

Lepidopterists' Society members may use this section free of charge to advertise their offerings and needs in Lepidoptera. The Editors reserve the right to rewrite notices for clarity or to reject unsuitable notices. We cannot guarantee any notices but all are expected to be bona fide. Notices should be sent to the Editor and should reach him at least two weeks in advance of publication date for any particular issue of the NEWS. Please note that the NEWS is issued 8 times a year and NOT monthly.

MEMBERS having living Hyalophora euryalus (rubra) pupae, 50 or more, to sell, please contact Warren M. Petersen, 645-A McLaughlin Avenue, San Jose, California, 95116.

WANTED: Coleophoridae from North and South America, particularly adults and larval cases with data on associated foodplants. Nova Scotian Lepidoptera offered in exchange. Barry Wright, Curator of Entomology, Nova Scotia Museum (Science Branch), Halifax, N. S., CANADA.

FOR SALE: Lepidopterists' NEWS, vols. 10 and 11, \$4 per vol. or \$7 for both. Jon H. Shepard, Department of Biology, Notre Dame University of Nelson, B. C., CANADA.

WANTED: Present addresses of the following: Melville W. Osborne, Rahway, N. J., Paul E. Stone, Jackson, Mich., Bill Oehlke, Roselle, N. J. Write Robert S. Bryant, 522 Old Orchard Rd., Baltimore, Md., 21229, U.S.A.

FOR SALE: Boloria improba, B. chariclea butleri and Colias palaeno chippewa, males, 1A quality, \$1.50 each, 50¢ postage. Henry Hensel, 145 Bellevue Street, Edmunston, N.B., CANADA.

FOR SALE: Formosan butterflies, moths, beetles and other dried insects and colored ferns for collectors, art work and study in wide variety and quantity. Mrs. Chang Pi-Tzu, P. O. Box 873, Taipei, Taiwan, Republic of China.

FOR SALE AND EXCHANGE: Fertile ova of Lepidoptera. Many unusual species. List on request. Duke Downey, Box 558, Sheridan, Wyo., 82801 U.S.A.

WANTED TO BUY: Butterflies, by Ralph W. Macy and Harold H. Shepard. Univ. Minnesota Press, 1941. Please advise condition and price. The Rev. Norman Bowen, Hope No. Dak., 58046, U.S.A.

FOR SALE: Three birdwings: Pair of Triodes priamus urallanus and male Trogonoptera brookiana albescens, while they last, \$6. All perfect with virtually full data. David W. Bouton, Box 204, Davenport, N. Y., 13750, U.S.A.

WANTED: Parasites, especially Ichneumonids, that attack Saturniid moths. Will exchange or buy. Also wanted Holland's Butterfly Book and Moth Book. Edw. Bauer, 11808 Honeydale, Cleveland, O., 44120, U.S.A.

DEALERS IN ENTOMOLOGICAL BOOKS

We are trying this to see whether members are interested. We can only run definite ads for those who are members, but a list of this sort should be useful. It does not pretend to be complete. Members interested in books and other publications should write these dealers for their catalogs.

E. W. Classey Ltd., 353, Hanworth Rd., Hampton, Middlesex, ENGLAND.

Particularly reprints of old volumes of *The Entomologist*.

Andr. Fred. Host & Son, 35, Bredgade, Copenhagen, DENMARK

Catalog of zoological publications.

W. Junk, 13, van Stolkweg, The Hague, THE NETHERLANDS

Miscellaneous entomological publications.

Alfred Kernan, Publishers, Stuttgart, GERMANY

Seits, *Macrolepidoptera of the World*, German, English and French Editions.

Oliver & Boyd Ltd., Tweeddale Court, 14 High St., Edinburgh 1, SCOTLAND

Williams, *Migration of Butterflies*.

Stechert-Hafner, Inc., 31 East 10th St., New York, N. Y. 10003, U.S.A.

Miscellaneous, mostly second-hand books.

Henry Tripp, 31 East 10th St., New York, N. Y., 10003, U.S.A.

Second-hand books.

We will run a list of dealers in supplies in the next issue. Please send names and addresses of such dealers.

We are advised that Moucha's "Beautiful Butterflies" and "Beautiful Moths" may be purchased for \$2.98 each from Brentano's or Doubleday's in New York or Washington, D. C.

ADDITIONAL CORRECTIONS FOR LIST OF MEMBERS

SHULL, Prof. Ernest M., 402 N. Wayne St., N. Manchester, Ind., 46962.

LEPID., esp. of India and Indiana. Coll., Migration, Ecology.

Page 26, INDEX: Robert Taylor should be listed as Mississippi and NOT Nebraska.

RESEARCH NOTE: Dr. R. W. Pease, Jr., 36 Lincoln St., New Britain, Conn., 06052, wants authentic information on hibernation of Polygonia interrogationis in New England. For further information, see p. 7, 1 March NEWS.

COLLECTION FOR SALE: The collection of Lepidoptera and Neuroptera of the late Rev. F. M. B. Carr is for sale. Includes 4 cabinets, 140 drawers. Also library and numerous notebooks. Write Mrs. F. M. B. Carr, 93 Albany, East Cliff, Bournemouth, ENGLAND.

NORTH AMERICAN ANNUAL SUMMARY FOR 1966

ZONE I: CALIFORNIA, ARIZONA, NEVADA: Coordinator: Fred Thorne. Contributors: R. Breedlove, K. Brown, E. Edgecomb, R. Funk, G. Gorelick, P. Herlan, S. Hessel, R. Holland, K. Hughes, S. Johnson, K. Krueger, N. LaDue, R. Langston, R. Leuschner, B. Mather, Z. Richins, K. Roever, A. Rubbert, J. Scott, O. Shields, R. Stanford and E. Walter.

MIGRATIONS: Vanessa cardui abundant in Borrego Valley, San Diego Co., 13 February, and by 30 March was migrating. Flight about over by 22 April (Thorne). Peak flight reported by Edgecomb in Shasta Co. (600 miles north of San Diego Co.) on 17-22 April; and in May at Yuma, Ariz. (Funk). Huge northerly flight of Libythea bachmanii in Southern Arizona, Aug. and Sept., but not reaching Phoenix. Regularly migrating Phoebis agarithe more numerous than usual in southern Ariz. (Roever), but no reports of migrating D. plexippus.

CALIFORNIA: Abundant precipitation late in 1965 favorable for spring flights, but deficient rainfall in 1965 resulted in brief, early and generally poor summer and fall flights.

MOTHS: Leuschner found collecting poorer than in 1965 at Pinyon Crest, 4000 ft., Riverside Co., but took several spp. as early as 15 Jan., including Stretchia sp., Lithophane n. sp., Yermia glaucina, and 7 spp. Eupithecia. After rains in Aug. he took Sphinx perelegans, asellua and dolli ssp., Erebus odora, Gloveria medusa, Datana sp., 5 spp., Schinia, many Grotella stretchii, Racheospila noel, and Oncocnemis linda. In Oct. and Nov., he took Glaucina magnifica, Cochisea sinuaria, Hydriomena septemnerata, Synaxis formosa and Fishea (?) betisia (not enthea as reported in '65). He found collecting only fair east of the Sierra in mid-July but Coloradia lindseyi, Hypocoena basistriga and 12 spp. of Euxoa were taken among 90 specimens, including 45 spp. of macros, one night at Toms Place, Mono Co. Nor was collecting good at Lake Tahoe or Child's Meadow (where Eurhinosa flavaria was taken by day), and it was poor at Inverness, Marin Co., and at Carmel, Monterey Co. Langston found Euproserpinus clarkei very numerous 5 mi. SW of Paicines, San Benito Co., 24 Mar., took Hepialus behrensii sequoiolus, 16 Apr., at Berkeley Hills, Contra Costa Co., and found Phryganidia californica destructive to scrub and live oaks on Santa Cruz Id., Sta. Barbara Co., 25 Apr.-2 May.

BUTTERFLIES: Meg. yuccae maudae, Providence Mts., San Bernardino Co., 9 Apr. (Funk). Ochlodes sylvanoides, Sta. Cruz Id., Sta. Barbara Co. 30 Apr.-10 June (spring flight! Langston); O. yuma, Darwin Falls, 31 Aug. (Holland) and nr. Independence, Aug. (Johnson), both Inyo Co. Hesp. miriamae, Mono Pass, 11,000 ft., Inyo Co., 27 Aug. and Shepherd Pass, 11-12,000 ft., Tulare Co., 26-28 July (Johnson). Pyrgus scriptura, Carquinez Strait, Solano Co., 2 June (Langston). Parnassius p. behrii, Mono Pass, 11,500 ft., Fresno Co., 27 Aug. (Holland). Pap. rudkini, P. clarki, and P. comstocki, Providence Mts. and Sheephole Mts., S. Bdo. Co., Scissors Crossing, S. Diego Co., Mar. and Apr. (Breedlove, Funk); P. bairdii, Owens Vy., Inyo Co., Aug. (Johnson), S. Bdo. Mts., May (Stanford and Hughes); P. i. fordi, Sheephole Mts., Fairview Mts., S. Bdo. Co., Apr. (Breedlove, Shields and others); P. i. martini, Prov. Mts., early Apr. (several collectors). Colias harfordii, Sta. Susana Mts., Los Angeles Co., 27 Feb. (early! Stanford); C. behrii, Mono Pass, 11,400 ft., Inyo Co. 27 Aug. (Holland). Zerene eurydice, nr. Redding, Shasta Co., 4-26 June (Edgecomb) and Mendocino Co., 13 June (LaDue). Anthocaris s. gunderi, Catalina Id., 19 Mar. and Eurema mexicana, several, Sta. Ana Riv. Canyon, 5000 ft., S. Bdo. Mts., 7-15 May (Stanford and Hughes). Incisalia fotis, Prov. Mts., early Apr. (several collectors took over 200); I. doudoroffi 9 miles S. Big Sur, Monterey Co., 14-15 May (Langston). Strymon simaethis sarita, nr. Descanso, S. Diego Co., May (Breedlove); S. avalona, Catalina Id., 19 March (Hughes and Stanford), 9 July, 18-19 August (LaDue); S. sylvinus desertorum, topotypes, Tehachapi Mts. Kern Co., 3 and 7 July (Hughes and LaDue). Callophrys dumetorum, Scissors Crossing, San Diego Co., 24 September, fall flight! (Breedlove); C. lemberti, Kaiser Pass, 10,000 ft., Fresno Co., 15-26 June (Stanford and Hughes); C. comstocki, Prov. Mts., early April (several collectors took over 200). Brephidum exilis, White Mts., Mono Co., 12,000 feet! 28 August (Holland). Pleb. i. moroensis, Oso Flaco L. S. Luis Obispo Co., 21 April, 6 June (Langston); P. shasta, White Mts., 12,000 feet, Inyo Co., 28 August (Holland). Philotes e. cammersi, Snow. Cr., Riverside Co., 14 September (Rubbert); P. rita elvirae, Pearblossom, Los Angeles Co., 3 September (Hughes), Independence, Inyo Co., 10 July - 10 August (Johnson); P. speciosa, In-Ko-Pah Gorge, Imperial Co., 2 April (Funk) and P. ssp., Briceburg, Mariposa Co., 24 April (Hughes caught by Lane); P. sonorensis, 3 miles NE Tuolumne City, 23 March and 5 miles SW Paicines, San Benito Co., 24 May (Langston). Limenitis hybrid fridayi, Mono Lake, 5 July (LaDue). Polygonia f. rusticus, Briceburg, Mariposa Co., Los Angeles Co., 16 April (Stanford) and nr. Independence, Inyo Co., 10 July to 10 August (Johnson). Euph. e. augustus, unusually common, S. Bdo. Mts., 29 May and 5 June (Stanford and Hughes), 25 June (Rubbert). Boloria epithore, So. limit (?), Frog Meadow, Greenhorn Mts., Tulare Co., 19 June (Hughes). Spey. n. apacheana, Deadman Cr. (headwaters Owen Riv.), 7,400 feet, 20 August and Virginia Cr., 7,200 feet, 21 August (Krueger); S. h. viridicornis, very common, Shirley Mead., Greenhorn Mts., Kern Co., 19 June (Hughes). Neominois r. dionysius, White Mts., Inyo and Mono Cos., 9 July (Hughes). Oeneis ivallda, Shepherd Pass, 12,000 feet, Tulare Co., 26-28 July (Johnson).

LIFE HISTORIES, ETC.: *Hemileuca electra* larvae heavily parasitized, Dictionary Hill, San Diego Co., 19 March (Walter). Spring brood larvae of *Pap. bairdii* common on *Artemisia dracunculoides*, 7-Oaks San Bdo. Mts., 26 May (Thorne). Enormous numbers of *P. indra fordii* larvae on *Cymopterus panamintensis*, Sheephole Mts., S. Bdo. Co. (over 1,000 larvae taken by several collectors in Sheephole Mine Canyon during April). Larvae of *P. rudkini* larvae abundant on *Thamnosma montana*, Scissors Crossing, San Diego Co., 14 May. Despite the fact that breeding experiments have shown that black is dominant, only about 2% of over 300 larvae produced black form *clarki* (Thorne). *Pholisora* nr. *alpheus*, ova and larvae on *Chenopodium* sp., Bard, Imperial Co., 2 Sep. (Funk). *Hesp. harpalus* ssp. ovipositing on *Muhlenbergia* sp. (det. Hiesy), Tioga Pass, 10 August (Shields). Mature larvae of *Philonthes speciosa* on flowers of *Eriogonum pusillum*, In-Ko-Pah Gorge, Imperial Co., 22 April, and mature larvae of *Vanessa cardui* abundant on *Malva*, Escondido. San Diego Co., 27 December (Thorne).

ARIZONA: Late 1965 very wet and warm; January to mid-June very dry and warm; late June to early October very wet and warm (Roever). Spring flights early and good; late summer and fall collecting excellent.

MOTHS: Leuschner took 234 specimens (52 spp.) in two nights in the White Mts., Apache Co., mostly Noctuids and choice, despite rain and temperature down to 40°F., 11 and 12 Sep. Included were *Hydriomena bryanti*, *Melemaea magdalena*, *Eurois decilis*, *Richia parentalis*, *Catocala relicta* and *grotiana*, and *Hydroecia medialis*. Cave Creek, Chiricahua Mts., Cochise Co., produced 400 specimens (143 spp.) 13-14 Sep., but not as choice, although *Ataplaga strelinea*, *A. dimidiata*, *A. sexseriata* and 4 spp. of *Schinia* were taken. Madera Canyon, Sta. Cruz Co., was poor, 15 September, only *Hemihylea splendens* being of note.

BUTTERFLIES: Space limitations permit only partial listing from very extensive collections made by Brown, Roever and others. *Agathymus aryxna*, Madera Canyon, Pima Co., October (Brown); *Meg. yuccae* ssp. Bartlett Lake, Maricopa Co., Mid-March; *M. streckeri*, Holbrook and White Rivs., Navajo Co., late May and Fredonia, Coconino Co., mid-June (Roever). *Amblyscirtes exoteria* & *aenus*, Nogales & Patagonia, late June; *A. t. prenda* & *nysa*, Nogales, Mid-August and *A. eos*, Benson Cochise Co., late April (all Roever). *Atrytonopsis deva*, *python* and *pittacus*, Chiricahua Mts., Cochise Co., April (Roever & Scott) and *A. vierecki*, Chuska Mts., Apache Co., mid-May (Roever). *Ochlodes s. napa*, Kaibab Plat., Coconino Co., mid-May (Roever). *Hesp. uncus*, No. Rim, Grand Canyon, late June, Holbrook, late May (Roever) and Walnut Canyon, Coconino Co., 5 July (Langston); *H. susanae*, Kaibab Plat., mid-August. (Roever); *H. woodgatei*, Madera Canyon, October (Brown); *H. nevada*, Big Lake, Apache Co., late May; *H. juba* and *viridis*, Chuska Mts., mid-May (all Roever). *Yvretta rhesus*, Holbrook, late May, *Ancyloxypha arene*, Nogales, mid-August (Roever). *Celotes nessus*, Bagdad, Yavapai Co., 10 April (Funk), Colossal Cave and Mt. Lemmon, Pima Co., 8 April (Scott) and Sabino Canyon, mid-March (Roever). *Erynnis icelus*, Chuska Mts., mid-May and *E. telemachus*, Hualapai Mts., Mojave Co., Young, Gila Co., Chuska Mts., Lakeside, Mavajo Co., April to June (Roever), and *E. scudderi*, Miller Canyon, Huachuca Mts., Cochise Co., 30 May (Richins). *Chiomara a. georgina*, Guadalupe Mts., Cochise Co., late October; *Cogia hippalus* and *C. moschus*, Patagonia, late July (Roever). *Systasea evansi*, Mt. Lemmon, Pima Co., 8 April (Scott). *Staphylus ceos*, Sabino Canyon mid-March (Roever) and Sedona, 6 September (Funk). *Zestusa doris*, Chiricahua Mts., 6 April (Scott). *Chiodes c. albofasciatus*, Madera Canyon, October (Brown). *Pap. p. asterius*, Yuma, 24 May; *P. rudkini*, nr. Parker, Yuma Co., 8 April (Funk); *P. zelicaon*, Chuska Mts., mid-May; *P. indra kaibabensis*, No. Rim, Grand Canyon, late June and Kaibab Plateau, mid-August, and *P. bairdii*, Dewey, mid-June, Mingus Mt., late July, both Yavapai Co., and Kaibab Plat., mid-July (all Roever). *Neophasia menapia*, Walnut Canyon, 5 July (Langston); *N. terlooti*, Madera Canyon (Brown) and Chiricahua Mts., (Gorelick), both October *Zerene cesonia rosa*, 25% of females with reduced black markings (see J. Lep. Soc., 1965, 19:2:111), Madera Canyon, October (Brown). *Anteos m. lacordairei*, Nogales, mid-August (Roever). *Eurema boisduvaliana*, unusually common in South Arizona, July-Sept., as was *Anth. pima*, March, April, over So. Ariz. (several collectors). *A. cethura* and *s. inghami*, Kofa Mts., Yuma Co., March (Funk). *Apod. m. mejicanus*, Madera Canyon, October, (Brown) and Huachuca Mts., mid-August (Roever). *Emesis z. ares*, Mt. Lemmon, early September (Gorelick). *Atlides halesus* at light, 10 April, Yuma (Funk). *Callipsyche behrii*, Canyon deChelly, Apache Co., 7 June (Hessel) and No. Rim, Grand Canyon, late June (Roever). *Incisalia i. annettae* and *fotis*, Hualapai Mts., Mojave Co., early April (Roever). *Strymon clytie*, Madera Can., October (Brown); *S. alcestis oslari*, Sabino Canyon, late May; *S. sylvinus itys*, topotypes, Prescott, mid-July (Roever) and Madera Canyon, October (Brown). *Hypaurotis crysalis*, Chiricahua Mts., (Breedlove), *Lycaena a. schelbachi*, Kaibab Plat., mid-August and *L. rubidus*, White Mts., early August (Roever). *Philotes rita*, Madera Can., October (Brown) and Huachuca Mts., September, (Roever) and *P. spaldingi*, No. Rim, Grand Canyon, late June (Roever). *Anaea a. morrisonii*, Madera Can., October (Brown) and Guadalupe Mts., late October (Roever). *Asterocampa c. montis*, Sabino Canyon, early September (Gorelick) and Montezuma Well, Yavapai Co., late August (Roever) and *A. subpallida*, Madera Can., September-October (Brown, Shields). *Limenitis a. obsoleta*, Patagonia and Nogales, August-September (Breedlove, Gorelick, Roever). *Junonia c. nigrosuffusa*, Sabino Can., early September (Gorelick), Madera Can., October (Brown) and Guadalupe Mts., Cochise Co., late October (Roever). *Polygonia faunus*, White Mts., early August, *Phyciodes picta*, Guadalupe Mts., late October (Roever). *Melitaea neumoegeni*, Kofa Mts., Yuma Co., 31 March (Funk). *Euph. a. magdalena*, Spey. a. *byblis* and *S. n. nitocris*, all White Mts., early August (Roever). *Euptieta h. hoffmanni*, Madera Can., Guadalupe Mts., October (Brown, Roever). *Cercyonis meadii*, Kaibab Plat. and Mingus Mts., July; *Neominois ridingsii*, Flagstaff,

mid-July; Oeneis a. daura, Big Lake, Apache Co., late May (all Roever).

LIFE HISTORIES: D. plexippus larvae on Asclepias subverticillata, Vail, Coconino Co., 17 September (Funk)

GOOD COLLECTING SPOTS: Guadalupe Mts., Cochise Co., many interesting spp. taken by Roever in October.

NEVADA: Worst drought in 12 years led to poor collecting with brief flight periods at high elevations. Melitaeinae in particular were virtually absent (Herlan).

MOTHS: Chlorissa sp., Lake Tahoe, 1 July (Mather-coll. by Studebaker).

BUTTERFLIES: Pap. rudkini clarki, Stewart Spr., Clark Co., 29 September, Apodemia mormo, Unionville, Pershing Co., August (Herlan). Strymon titus and Lycaena heteronea, Lehman Caves, White Pine Co., 9 July (Johnson). Limenitis archippus, special efforts directed towards this population, found in Washoe, Lyon, Churchill, Pershing, Humboldt and Elko Cos., late July and early August (Herlan). Spey n. apacheana, Kingston Can., 7800 ft., Lander Co. (central Nevada population identical with Round Valley California), August (Herlan) Spey. ?egleis and S. ?zerene ssp., Lehman Caves (Johnson). D. gilippus strigosus, Fernley, Lyon Co., August (Herlan).

ZONE II: PACIFIC NORTHWEST. BRITISH COLUMBIA, WASHINGTON, OREGON, IDAHO, MONTANA.

Coordinator: E. J. Newcomer. Contributors: C. Curtis, J. Ebner, D. Ferguson, W. Howe, K. Hughes, S. Jewett, E. Newcomer, W. Rogers, J. Scott, J. Shepard, R. Woodley.

WEATHER: A period of warm, settled weather early in April in Washington and Oregon resulted in unusual opportunity to collect such early species as Euchloe h. lotta, P. sisymbri and Callophrys sheridani.

BRITISH COLUMBIA: Boloria toddi, Christian Valley, June, Shepard.

WASHINGTON: Colias interior, C. alexandra and C. eurytheme flying together, Pend Oreille Co., July; Spey. atlantis beani(?) Pend Oreille and Stevens Cos., both Shepard.

OREGON: MOTHS: Jewett took the following new or scarce moths at black light along Nehalem R., Clatsop Co.: Diacrisia pteridis, Phragmatobia f. rubricosa, Chlorosea banksaria, Triphosa californiata, Eupithecia luteata bifasciata, E. olivacea, Chytolita petrealis, Hemeroplanis secundalis (?), Eupsilia tristigmata, Achytonix epipaschia, Polia illacina, Xanthia lutea and Autographa sansoni.

IDAHO: No report.

MONTANA: Scott, Ferguson and Curtis, collecting for Yale University east side Crazy Mts., Sweet Grass Co., June 27 to August 17, reported following unusual species: Hesperia nevada, H. harpalus, Parnassius phoebus montanulus, Callophrys affinis, Lycaena c. snowi, L. p. arethusa, Ph. enoptes, Scol. piasus, Boloria kriemhild, B. titania (very large), Spey. e. albrightii, S. a. hutchinsi, Coeno. haydeni. Howe, collecting in Beartooth Range (Stillwater and Carbon Cos.), July 16-24, reported 9 spp. of Speyeria very numerous in one location (East Rosebud Valley): S. edwardsi, c. halcyone, z. sinope, e. nr. secreta, atlantis, h. sakuntala, m. eurynome, c. leto and aphrodite; also egleis x atlantis and hydaspe x atlantis. Other spp. taken included S. titus, Lyc. heteronea, L. c. snowi (one only), Colias christina, C. scudderi, Erebia theano (very numerous), and Boloria t. helena. Ebner, collecting near St. Mary, Glacier Co., June 28-30, took Papilio nitra (worn), Col. christina, Oeneis uhleri (I) and other more common species. Hughes found Nymph. j-album numerous at Swan Lake, Lake Co., 14 August.

ZONE III: ROCKY MTS. AREA. ALBERTA, WYOMING, UTAH, COLORADO, NEW MEXICO.

Coordinator: Donald Eff. Contributors: F. M. Brown, Curtis Callaghan, James Ebner, Scott Ellis, Glenn Gorelick, Dennis Groothuis, Richard Hardesty, Richard Holland, Maurice Howard, Sam Johnson, Robert Langston, John Legge, M. and E. Roshore, James Scott, George Shier, Kenneth Tidwell, Mike Toliver.

ALBERTA: In contrast to more southerly areas of the Rocky Mt. zone, moisture was plentiful, especially during June. Decent collecting weather mid-July to mid-August.

RECORDS OF CHOICE SPECIES, EXTENSIONS OF RANGE, RELATIVE ABUNDANCE. Legge added three records of Papilio nitra; Ebner some records of interest in Waterton Lakes area, July 11-17; Colias alexandra, one previous record from Nordegg plus recent record from Cypress Hills area in SE corner of Province: Speyeria leto, S. z. garretti (abundant) and Euphydryas gillettii, which latter record is another in a chain of distribution from Nordegg to Southern Wyoming. Two other seldom reported species were Anthocaris sara and Strymon titus. Just north, near Coleman, Scott (July 17) took Boloria epithore, a fringe area for this species. Scott, in a new and interesting area, (August 1) took much-sought material, such as Bol. astarte, B. e. nichollae, B. alberta, Colias christina, C. m. elis, C. p. minisni, C. streckeri, Oeneis m. beani, O. chryxus, Agriades g. megalo, Lyc. c. snowi, Euphydryas e. beani and others.

NEW AND CHOICE COLLECTING SPOTS: Waterton Lakes, Allison Cr. Campground, near Coleman, Kananaskis Lakes, Ptarmigan Valley, opposite Lake Louise, Nigel Pass and Spray Lake above Canmore. Probably most intriguing locality is one never before collected, as far as known: Snow Creek Pass, north of Lake Minnewanka, near Banff, where Scott took above listed material. Sounds as spectacular as the now reknowned Plateau Mountain.

WYOMING: Weather dry and hot, providing excellent opportunity for collecting, which was improved over 1965 season.

RECORDS, CHOICE SPECIES, EXTENSIONS OF RANGE, RELATIVE ABUNDANCE. Two possible new state records are Apodemia mormo from Sybille Canyon, Albany Co., (July 9-10) and Strymon l. sliparops from Mill Creek and Beaver Creek, Converse Co., (July 14 and 20). New county records included Pieris n. pallidissima, Camel Creek Campground

(July 30), Incisalia iroides, Little Laprele Creek (June 18), and Papilio bairdii fm. brucei, North Horseshoe Creek, all Converse Co. Other good catches: Satyrium fuliginosum and Strymon a. montanensis (Hardesty and Groothias), Amblyscirtes simius, near Chugwater (June 25) and Colias s. astraea, Big Horn Mts. (June 26, Scott).

UTAH: Many areas of interest here, some never before collected, some little-known, some well-known. There has never been sufficient collecting coverage, but this year Ken Tidwell was helped by Curtis Callaghan, who collected in a little-known area along the Utah-Colorado border in Uintah Co., Utah, and the western portions of Moffatt and Rio Blanco Cos. in Colorado. This is not rewarding country in the way of abundant specimens but all records are of interest.

RECORDS, CHOICE SPECIES, EXTENSIONS OF RANGE, RELATIVE ABUNDANCE.

Papilio bairdii fm. brucei fairly common in aforementioned areas (Callaghan) hill-topping in the drier areas along the White River. First records for bairdii and b. brucei along the Green River, near Jensen, in Uintah Co. (Tidwell); Philotes g. centralis (August) and Apodemia mormo (August) colonies found along Willow Creek, Uintah Co. Same area had Euptoieta claudia and Phyciodes campestris in abundance. Tidwell noted earliest emergence on record in northern Utah of Spey c. harmonia (May 28) and S. e. utahensis (June 4). Tidwell tried Carbon Co. for the first time and was rewarded with his initial Utah specimens of Melitaea pola (late June). In late August he found Chlosyne lacinia common at St. George, Washington Co., where one female Apodemia palmeri and some Heliopetes ericetorum were taken. Polites sabuleti near Wellington, Carbon Co., and Moab, Grand Co. An unusual record from there was Limenitis archippus. Sam Johnson and Scott Ellis took Plebeium saepiolus gertschi in the Henry Mts., Garfield Co.

NEW AND CHOICE COLLECTING SPOTS: From the records, Willow Creek, Uintah Co., appears to be one of the more interesting, newly collected spots. And certainly Bull Creek Pass in the Henry Mts. and Birch Creek Peak in the Tushar Mts., Piute Co., need further investigation.

COLORADO: Season dry and warm; some areas regressed but generally collecting and weather good. This, as predicted last year, was probably due to lush vegetative growth in the wet year of 1965.

RECORDS, CHOICE SPECIES, EXTENSIONS OF RANGE, RELATIVE ABUNDANCE.

Biggest news: new state record -- Callophrys affinis. Suspected resident of Colorado fauna proved by capture by four collectors: Eff nr. Tabernash, Grand Co. (May 31), Ellis nr. Basalt, Eagle Co., Johnson west of Nathrop, Chaffee Co. (June) and Callaghan at Plug Hat on Blue Mt., Moffatt Co. Holland provided an interesting extension of range by capturing Melitaea damoetas on Whiskey Creek Pass, Costilla Co. (July 5); Erebia magdalena also taken there. There is one other record from this area: Culebra Peak, just east of this Pass. Kathy Scott provided another record for this species by capturing it in Fremont Co. on Galena Peak in the Sangre de Cristo Range. Other records of particular interest include Oarisma edwardsi and O. powesheik, Phantom Canyon, Fremont Co. (June 20) by Maurice and Carolyn Howard, who also found Pholisora alpheus abundant nr. Boone, Pueblo Co. in early June and Pyrgus xanthus, Beaver Creek, Rampart Range, El Paso Co. (May 22) and 5 miles west of Buena Vista, Chaffee Co. (May 10). New capture of Spey. nokomis in Paradox Valley, Montrose Co. (August 13) and Strymon sylvinus at same locality, another indication of a second brood which Minor has taken in September in Mesa Co. These three taken by Johnson. Kathy Scott took the second known specimen of Phyciodes texana in Colorado in Italian Gulch, Fremont Co. (June 27) and Jim Scott found Amblyscirtes simius and Stinga morrisoni in Bear Creek Gulch nr. Salida, Fremont Co. (June 15), Polites sabuleti, Kerr Gulch, Fremont Co. (June 18) and Megathymus streckeri nr. Villa Grove, Saguache Co. (June 19). One other note of interest: Holland took Neominois ridingsii above timberline on W. Spanish Peak, Las Animas Co. (July 18). Brown and Shier noted swarms of V. cardui, noted elsewhere in this report. Gorelick noted hundreds of larvae of Nymph. milberti on nettles at Rocky Mt. Biological Lab. at Gothic, nr. Crested Butte. Late-season records from Tindale include Hesp. juba at 7,000 feet (October 8); Lycaeides melissa, 7,000 feet (October 6-9); Pyrgus communis, Col. e. eriphyle and Nathalis iole, St. Vrain Canyon, Boulder Co. (5400 ft., October 30); and Danaus plexippus, fresh melanic female, Coal Creek Canyon, Jefferson Co. (October 6) Tindale also took a Hepialus, possibly a new sp. in Fall River Canyon, Larimer Co. (August 22).

NEW MEXICO: In the past, this has been the least known and least reported state in this zone. Now, thanks to resident collectors Toliver and Holland and the discovery by other collectors of the interesting and choice spp. to be found here, we are getting excellent coverage. Good sampling from many areas this year with resultant abundance of records and capture of choice spp.

RECORDS, CHOICE SPECIES, EXTENSIONS OF RANGE, RELATIVE ABUNDANCE:

The first reported known records of Erebia magdalena were from Wheeler Peak area, nr. Twining, Toas Co. (July 2-3) by Toliver and Holland, and Wilson took first specimens of Colias s. ruckesi since Klots recorded and named it in 1936; these taken near type locality, Santa Fe Baldy Pk., Santa Fe Co. Among possible new county records were Phyciodes texana, Melitaea elada ulrica, Amblyscirtes eos and Kricogonia lyside, all Roosevelt Co. (Toliver), Amblyscirtes simius, Santa Fe Co. (Langston) and Bernalillo Co. (Holland), Philotes b. centralis S. of Ft. Wingate McKinley Co. (Langston) and at El Moro and Mt. Taylor area (Langston, Toliver, Holland), Philotes spaldingi S. of St. Wingate, McKinley Co. (Langston) and 4 mi. S. of Tierra Amarillo, Rio Arriba Co. (Toliver), Oarisma edwardsii, El Moro, Valencia Co. (Langston) and Mt. Taylor, same county (Holland), Spey. n. nitocris, Willow Cr., Catron Co. (Holland) and Incisalia i. anetta, Mogollon, Catron Co. (Holland). Interesting records relating to range of a particular species: Mel. acastus, Hypaurotis crysalus, Pholisora alpheus, Oeneis m. lucilla, O. chryxus, Plebeius a. rustica, Piruna pirus, Colias meadii Euphydryas

anicia brucei, Boloria t. helena, Pyrgus xanthus, P. centaurae loki and others. Among some of the choicer spp. encountered, some of which may be new records for various counties, were Battus philenor, Agraulis vanillae incarnata, Cercyonis meadii, Strymon f. godarti, Yvretta rhesus, Y. carus, Hesp. woodgatei, Mitoura spinetorum and others, especially skippers, including Megathymus coloradensis reubeni. This was a banner year for Calliphrys mcfarlandi with a new colony reported by Holland from White Oaks, Lincoln Co. It was extremely common, fairly swarming in some localities at the right time. Recorded in early March by Holland and Toliver about a month earlier than any previous record. Two others occurring in unusual numbers were Stinga morrisoni (Roever, Holland and Toliver) and Erora quaderna (Scott, Holland and Toliver). Apodemia m. mormonia fairly swarmed in the Sandia Mts. and, as elsewhere, V. cardui was common (see special report). The pupae of Megathymus coloradensis, which was common, were found in Yucca baileyi and Y. vacata, while the pupae of Meg. c. reubeni were found in Yucca elata. Castilleja was confirmed as the foodplant of Melitaea fulvia in New Mexico.

NEW AND CHOICE COLLECTING SPOTS: Intrigued with the results of their first visit to Mt. Taylor, Valencia Co. in 1965, Holland and Toliver collected this area extensively in 1966 and were rewarded with some two dozen additional species not taken there before. Also, the Mt. Wheeler area, Taos Co., was collected for the first time and the results sound like an alpine report for Colorado with many extensions of range into northern New Mexico. Another good area: the Santa Fe Baldy Peak area.

MOTHS: Bryant Mather reports the following correctly determined moths taken by M. & E. Roshore, September 12, Carlsbad-Whites City area: P. quinquemaculata, Basilodes rugifrons, Schinia chrysellia, Erasterioides propora, Mesothea viridipennis, Cosymbia serrulata, Semiothisa cyda, Itame pallipennata, Morina polingi, and Noctueliopsis puertalis. The Mt. Taylor area yielded many as yet undetermined, but among those determined are Sphinx dolli coloradus, S. cerysii, P. quinquemaculata, Catocala arizonae, C. aholibah and Antharaea polyphemus. In the Sandia Mts. Holland also recorded Automeris zephyria, Sphinx chersis, Prionoxistus robiniae, Pholus achemon, Catocala verecunda, C. arizonae and C. aholibah.

ZONE IV: GREAT PLAINS. CANADA TO TEXAS IN THE PLAINS REGION. Coordinator: H. A. Freeman.

Contributors: Joseph F. Doyle III, James A. Ebner, H. A. Freeman, E. A. Froemel, Richard Heitzman, William H. Howe, Roy and Connie Kendall, Everard Kinch, Jim Norwood, Roy W. Quillian, Mike and Sue Rickard and Norman B. Tindale. Coverage for this report fair to good, with the best from Texas in many years. **GENERAL CONDITIONS:** Reports variable, some collectors indicating below normal collecting, while others reported very good collecting with some unusual catches being made.

CANADA: Riding Mountains, Manitoba (Kathryn Lake) June 20-22. Ebner reports that among the specimens collected were the following: P. glaucus canadensis, S. cybele, S. atlantis hollandi, S. aphrodite manitoba, B. titanis, L. arthemis, P. satyrus, N. milberti, P. batesi, C. interior, C. gigantea, C. christina, L. portlandia, and L. melissa. He stated that the season was advanced and butterflies mostly over.

NEBRASKA: Froemel reports from Columbus that the season was very dry until the middle of August and then they had floods. Due to the weather and also the increased use of pesticides in the vicinity the general populations of lepidoptera seem to be on a decline. Three interesting moths were collected at light traps, Smerinthus jamaicensis geminatus, (with only one blue spot on the secondaries), Papaipema marginidens, and Syneda howlandi (?).

KANSAS: Howe reported that the butterfly season was poorer than at any time since he started collecting in 1942. The spring was unusually stormy and this might have had some effect on the season. B. philenor, P. cresphontes, and Z. caesonia were completely absent from their normal habitats, as was also S. idalia. About the only normal lepidoptera were Hesperidae and moths. Several life histories were worked out: Amblyscirtes belli on spangle grass (Uniola latifolia); Euphyes dion on water sedge (Carex lacustris), reared by Heitzman; Problema byssus on gama grass (Tripsacum dactyloides) by Heitzman at Holliday, in Johnson Co.; Sphinx vancouverensis albescens on "Buckbush: (Lonicera); Catocala maestosia on Carya pecan; C. resecta and C. insolabilis on Carya ovata; C. junctura on "swamp willow" (Salix); C. lachrymosa on Carya ovata; C. alabamiae and C. grynea on Craetagus; C. neogama and C. piatrix on Juglans nigra; C. innubens and C. illecta on Robinia; C. amatrix on Salix. All Sphinx and Catocala life histories were made at Ottawa. Heitzman reports that 1966 was a very poor year for Lepidoptera in Kansas. Spring collecting was terrible, E. o. rosa was absent, most Erynnis rare, Papilio rare, A. midea scarce, I. henrici turneri a little more numerous than last year. Only the most common species were out in any numbers.

TEXAS: Norwood reports that on June 12 he collected 25 larvae of B. philenor on Aristolochia in Fort Worth. Kinch reported that collecting was very good during October in the Fort Worth area, with the capture of several interesting aberrations of Z. caesonia and E. mexicana. Other species were out in fair numbers during the year. Tindale reports that he made a collecting trip to Texas during December. In the Pharr area, 21-22 December, the following were collected: A. campestris, L. accius, H. phylaeus, N. julia, P. polyxenes, B. philenor, Z. caesonia, E. mexicana, E. nise, P. agarithe, P. statira, P. sennae, E. endymion, A. vanillae, and D. gilippus. In the Brownsville area, 22 December, the following were collected: P. communis, E. lisa, C. perditalis, L. bachmanii, M. amyone, P. texana, D. julia delia, D. gilippus, E. gemma freemani, and E. hermes. In the Chisos Basin, 25 December, only Nathalis iole. In the Boquillas Canyon, 26 December, L. accius and H. isola. The Kendalls reported a good flight of C. f. bollii in the San Antonio area during early spring. New and unusual records from San Antonio were the following: E. meridianus, 30 July, 21 August; A. thraso, 17 July; S. ceos, 21 August; U. dorantes, 29 October; E. boisduvaliana, 30 July; E. n. nelphe, 22 and 27 July, 2 August; E. proterpia, 23 October; H. c. vazquezae, 12 October, 23 October; D. j. moderata, 17 November; C. rawsoni,

17 July, 29 October; B. h. aganisa, 15 August Travis Co., C. rawsoni, 23 July. Kendall Co., C. rawsoni, 5 November, Harris Co., C. virginienis, 24 September, 11 November, Newton Co., L. p. portlandia. Species reared by the Kendalls during the year were: E. brizo (Bastrop Co.); E. t. tatus (Brewster and Jeff Davis Counties); S. evansi (Presidio Co.); A. casica (Jeff Davis Co.); A. cellus (Brewster Co.); C. rawsoni (Brewster and Kendall Counties); A. a. morrisonii (Jeff Davis Co.); L. a. astyanax (Bexar, Bander and Kerr Counties); L. a. arizonensis (Brewster Co.); L. a. watsoni (Bexar Co.); L. b. eulalia (Jeff Davis Co.); C. t. bollii (Kerr, Mason and Kinney Counties); D. j. moderata (Bexar Co.); and P. troilus (Kendall Co.). The Rickards reported the following from the San Antonio area: E. proterpia, 23 October; H. c. vazquezae, 23 October; D. j. moderata, 24 October; B. h. aganisa, 30 April; D. dyonis, 24 October. Elsewhere in the State: Harris Co., P. p. panoquinoides, 15 November; S. c. istapa, 20 and 22 November; O. maculata, September and October; P. oileus, August to November; H. c. zacheinus, 14 November; C. virginienis, September to November (39 specimens collected); Montgomery Co., A. aesculapius, 13 September; L. p. portlandia, 18 July, 16 April; Bastrop Co., E. proterpia, 31 July; Kinney Co., A. j. luteipicta, 25 October. Doyle reported the following: San Antonio, D. dyonis, 27 July, 20 November; E. n. nephe, 11 June, 29 July; S. c. istapa, 4 November; D. j. moderata, 19 November; H. c. vazquezae, 1 September. Elsewhere in the State: Dimmit Co., A. l. cocles, 16 November; S. c. istapa, 16 and 24 November. Comal Co., A. a. morrisonii, 15 November, Guadalupe Co., B. h. aganisa, 15 November. Quillin reported the following: San Antonio, H. laviana, 19 August, 3 and 16 November; A. thraso, 16 August; C. zilpa, 27 September; C. albofasciatus, 19 October; A. toxeus, 12 September; G. stigmaticus, 22 August; P. g. glaucus, 5 October; A. c. nivifera, 17 August; C. janais, 28 October; H. c. vazquezae, 15 September, 18 October. Heitzman reported that collecting was very good in Texas during June. In the San Antonio area the following were reported: C. nessus, C. aurantiaca, H. c. vazquezae, C. t. bollii, E. mexicana, and P. vesta. Lake Corpus Christi State Park was fabulous for moths and butterflies and especially abundant were: C. l. adjutrix, C. domitianus, K. lyside, L. bachmanii, B. philenor, P. cresphontes, A. thraso, P. albescens, H. isola, and A. c. antonio. Less common were: C. elada, C. t. bollii, D. gilippus, P. vesta, W. otho, P. vibex praeceps, N. julia, C. nessus, S. pulverulenta, E. funeralis, A. toxeus, P. philea, L. marina, M. amymone and P. agarithe. At Goose Island State Park the following were collected: B. exilis, P. phaon, G. g. invisus, A. monuste, S. beon, K. lyside, and C. albofasciatus. At Brownsville collecting was excellent and the following were taken: E. nise, C. nemesis, H. c. zachaeina, A. C. louisae, E. h. hermes, E. g. freemani, L. dysaules, L. accius, U. procne, C. minima, S. c. istapa, P. oileus, H. c. vazquezae, D. julia, P. lilea, E. boisduvaliana, A. walkeri, U. teleus, and C. calchas. At Boca Chica A. monuste were abundant, but P. panoquinoides was rare. At San Pedro there were large colonies of C. peritalis, U. procne, C. minima, D. gilippus, S. c. istapa, and S. beon. Santa Anna Reserve was good for many species such as: E. d. palmira, E. lisa, A. aidae, M. ethusa, L. fessonia, M. stelenes, A. jatrophae, C. janais, C. elada, M. amymone, A. leila, S. beon, D. julia, H. laviana, H. macaira, A. toxeus, U. dorantes, C. asychis, A. fulgurator, A. thraso, S. mazans, C. potrillo, L. cassius and A. halesus. A total of 103 different species of butterflies were collected on this trip to Texas. Freeman reports general collecting in the Dallas area normal. No new records reported. In the Brownsville area he found the following during June: A. walkeri, C. ino, C. nemesis, C. peritalis, H. laviana, H. macaira, P. oileus, L. accius, U. porteus, U. dorantes, U. procne, U. teleus, U. tanna, and C. albofasciatus. There was little to collect in the Laredo area during July as it was hot and dry. In the McAllen area during August the usual species were out in good numbers. General collecting in the southern part of Texas was very good as the records reported by the Kendalls, the Rickards, Doyle, and Quillin are most unusual as they verify a number of old records or else establish new records for that particular part of the State.

ZONE V: CENTRAL REGION - MISSOURI TO WEST VIRGINIA, NORTH TO ONTARIO.

Coordinator: J. R. Heitzman. Contributors: R. Arnold, J. L. Boughtner, R. Bracher, P. J. Conway, C. V. Covell, K. Dixon, J. R. Heitzman, R. Holzman, L. A. Hoying, R. L. Huber, G. P. Korsmo, L. Martin, G. Lisk, J. Masters, B. Mather, L. McClair, M. C. Nielson, J. Nordin, P. D. Nordin, O. A. Perkins, N. G. Seaborg, W. Sieker, J. Sorenson, D. V. Swanson, D. Schweitzer, O. R. Taylor Jr., E. G. Voss, V. Warczynski, O. D. Spencer.

GENERAL CONDITIONS: The northern section of zone 5 suffered from a late spring cold spell with snow storms in May and subfreezing temperatures that destroyed or retarded Lepidoptera populations in many areas. Over the entire region D. plexippus was at the lowest ebb in years and no migrations were observed. A buildup of V. cardui populations is becoming evident and one migration was recorded in Ohio.

MISSOURI: A mild winter with little snow was the rule with spring and early summer very wet followed by dry weather until mid autumn. Butterfly populations below normal, moth collecting fair to good especially in the southern part of the state, late summer and fall. STATE RECORD: Cogia outis, 22 May, Ginger Blue, McDonald Co. Record: P. texana, 16 July, Jackson Co. On 5 January several C. eurytheme were found in the Kansas City area, the only record of a butterfly in January for this area. A. clyton was abundant, C. henrici, C. cecrops and F. tarquinius up in numbers. A. midea uncommon, E. o. rosa very rare (usually a common spring species). G. marcellus, S. falacer, L. p. anthedon, C. pegala, L. astyanax and archippus were rare. S. idalia, P. progne, P. cresphontes, E. ontario, C. titus, S. liparops, E. malbum, A. nysa were absent. Sphingidae were rather scarce. Noctuids, Notodonids and Geometrids present in fairly good numbers. No X. tersa appeared this year. Migratory fall Noctuids were numerous. The most noticeable species was Anomis flava fimbriago which invaded the Independence area the third week in September and was common at lights about the city and gas stations in Jackson Co. (Co. record). Dixon and Heitzman at Coolie Lake, Clay Co. in late August took many choice moths including, S. inclara, S. tertia, S. cumatilis, C. picta, M. implicata, S. manti, H. lunata (Co record). The season lasted well into October with C. c. rosa fairly common in Camenton area along with H. leonardus. E. nicippe

and P. s. eubule well down in numbers.

KENTUCKY: Covell found L. portlandia and V. cardui common, S. edwardsii abundant 25 June with C. titus and a single E. ontario. Other good captures were E. gemma, L. thoe and E. nicippe form flava. Captures of P. modesta by several University of Louisville students were noted. Mather reports moth collections by Rosh are as follows. Lexington, 20 July, Rachiplusia ou.; Mt. Sterling, 20 July, A. io, Heterocampa guttivitta, Gluphisia septentrionis, Anacamptodes humaria, Apatelodes torrefacta, Enconista dislocaria, Biston cognataria, Pyrausta submarginalis.

WEST VIRGINIA: Parkersburg, 14 July (leg. Roshore) by Mather. A. polyphemus, Pseudaletia unipuncta, Datana integerrima, Schizura leptinoides, Lygris diversilineata.

IOWA: Spencer, collecting in Waubonsie State Park, Fremont Co., found the season poor for butterflies. P. cresphontes was very rare for the third year in a row. Only one C. cesonia was found; normally a common fall species. Polygonia species, progne, comma and interrogationis all very rare. There seems to be an increase in the P. glaucus population. A number of larvae were collected from green ash trees.

INDIANA: Bracher found spring, summer and fall seasons about average with summer slightly cooler than normal. Only 2 D. plexippus were seen and no larvae found. P. p. asterias and S. idalia, normally common were rare. P. interrogationis, V. atalanta, P. glaucus and P. troilus were very common. P. cresphontes and Graphium marcellus were numerous near Wolf Lake and Bear Lake where prickly ash and paw paw are plentiful. A noticeable increase in bird populations, especially blue jays seem to be having a detrimental effect on the Lepidoptera. An unusual capture was a fresh G. marcellus, 8 October (very late occurrence). Mather took Pseudaletia unipuncta and Anagrapha falcifera 25 May in Indianapolis.

ILLINOIS: The season was retarded by snow in early May and populations were reduced from the 1965 season but general collecting was still good. Seaborg found L. helloides and P. protodice common near Burnham, Cook Co., with L. x. dione and L. thoe less numerous. B. s. myrina was collected near Lockport, Will Co. Arnold reports L. p. americana common the first week in May but this brood and other species flying were killed by a snow storm on the 10th. An increase in numbers of Erynnis species, L. bachmanii and E. lisa was noted. T. lineola was abundant and has spread to many new locales since last year. Strymon species, especially liparops were flying as much as 4 weeks later than normal. Palos Park in Cook Co. was good in early August. Collections included P. progne and comma, H. thysbe and difinis. On the 18th of August P. troilus and B. philenor were taken. Unusually late captures of M. nycteis were made 26, 27 and 29 August near Palos Park. L. p. americana produced a small third brood in late August.

OHIO: Martin reporting primarily for N. E. Ohio found spring flight periods about 3 weeks late due to snow and temperatures into the teens as late as 14 May which certainly had detrimental effects on the Lepidoptera. The remainder of the year was near normal with above average rainfall. Most univoltine species appeared much later than normal and in reduced numbers. S. cybele normally out in late May was not seen until 18 June. E. lisa, B. philenor, N. antiopa, N. milberti, L. astyanax and L. archippus increased in numbers. Good captures were H. leonardus, 11 September (Wellington) and S. idalia, 3 August (Stark Co.), V. cardui appeared in mid June and was numerous all summer but no mass movement was observed by Martin. County Records: Portage Co. E. conspicua (31 July), Lorain Co., E. conspicua (9 August), A. delaware (4 and 16 July), N. iole (12 October) Champaign Co., L. helloides (11 June), M. nycteis (11 June). Haying reporting for the Minster area found most species scarce. A cold wet May ruined early collecting. Probable county records are A. celtis, Shelby County and P. protodice, Auglaize Co. N. milberti was observed from mid March into mid October and was fairly common. Albino female C. eurytheme were abundant. D. plexippus was almost nonexistent. A migration of V. cardui was observed for several days in mid June, peaking the 19th. On some occasions P. interrogationis were also observed migrating with the V. cardui. Schweitzer observed A. campestris numerous around Newark, 8 October after frost had killed many garden plants.

MINNESOTA: Minnesota collectors, by pooling their records, have again produced an excellent coverage of the state's Lepidoptera. For all interested parties a complete report of all butterflies and Sphingids collected in Minnesota during 1966 will be found as a supplement to Vol. I of the National Association of Minnesota Entomologists. For information contact Patrick J. Conway, 7544 Cedar Avenue South, Richfield, Minnesota. Some of the highlights follow. Season about average with some populations high while others declining. D. plexippus populations definitely down; V. cardui numbers are building up.

STATE RECORDS: Hylephila phyleus, 10 August, Wabasha Co. (Huber). Herse cingulata, Watonwan Co., early September (Linscheid). Scores of new county records were compiled. Pierids enjoyed a good year with C. cesonia, N. iole and E. lisa locally common. C. interior was abundant in the northern counties. A rare white female was taken by Nordin in Lake of the Woods Co. N. vau-album, B. t. grandis and S. idalia had excellent seasons. Blend populations of Hesperia pawnee X H. leonardus were again taken in several counties from 18 August to 5 September. H. dakotae was taken in Clay Co., 4-9 July. Populations of P. verna were up. P. cresphontes was collected 27 August in Blue Earth Co. Masters collecting at Bald Eagle Lake, Anoka Co., took Lethe eurydice appalachia in upland wooded environment sympatric with L. p. anthedon. This is the westernmost known record for appalachia. Solana State Forest, Aitkin County was an excellent collecting area in July. Masters took 24 species 4 July and 22 species 30 July. S. atlanis, L. arthomis and B. selene were abundant.

MICHIGAN: Lower Michigan suffered from late spring cold. Unusually hot dry weather persisted from early July into September. Nielsen collecting from Lenawee to Chippewa counties took 94 species of butterflies and found collecting

as good as last year for moth species.

STATE RECORDS: Exyra rolandiana, adults and larvae on pitcher plants from Oakland, Otsego, Cheboygan, Mackinac and Chippewa Counties (Nielsen). Papaipema harrisi, reared from Angelica atropurpurea plants in Jackson Co. (Nielsen). Atreides plebejus, Clinton Co. (McMaster). Brachionycha borealis, Arenac Co. in April (Warczynski). Leucobrepas brephoides Otsego Co., April (J. Donahue and J. Newman). Orthofidonia flavivenata, 20 May, Otsego Co. (Nielsen). Merolonche dolli, 8 May, Arenac Co. (Warczynski) and Archanara alameda, Bay Co. at U V light (1 only). This species previously known from the West Coast. County records: A. delaware, 16 July, Cheboygan Co. A northern range extension. H. leonardus, 31 August, Allegan Co. (on blazing star blossoms); S. falacer, 26 June, Clinton Co. (1 male at U V light); Catocala judith, 20 August, Clinton Co. (2 at U V light). An increase in numbers was noted for L. bachmanni, V. cardui, N. milberti. Populations of D. plexippus are much lower. B. e. dawsoni was collected 23 June north of Cedarville, O. c. strigulosus, 22 May in Otsego Co. flying with P. centaurae. A single C. eryphon was collected 21 May in northern Chippewa Co. Hibernating Graptolitha fagina and G. amanda were taken at U V light 20 May in Otsego Co. H. gracilis was captured on wild phlox 19 June in Montcalm Co.

LIFE HISTORY OBSERVATIONS: Hesperia ottoe females were found ovipositing on Andropogon scoparius, larvae in 5th instar now hibernating. E. olympia larvae and pupae from Arabis drummondii, Montcalm Co. G. l. couperi, myrmecophilous larvae collected on Lathyrus venosus, Montcalm Co. Hemaris diffinis larvae found on Triosteum perfoliatum, Symphoricarpos albus and bush honeysuckle (Lonicera). Papaipema circumlucens, reared from Apocynum cannabinum, Lenawee Co. Holsman reports that windy conditions along with the cold weather and dry summer created a very disappointing year for M V light collecting in the southeastern part of the state. Moth populations in general were low, Noctuids showed some improvement. Perkins records earlier than normal captures for P. p. asterias, 21 May (Oakland Co.), C. philodice, 24 May (Livingston Co.), G. lygdamus, 15 May (Oakland Co.), P. progne, 1 May (Oakland Co.), E. cymela, 29 May (Oakland Co.). Later than normal captures were S. caryaevorus, 28 July. L. thoe, 17 August, G. lygdamus, 4 June (Oakland Co.) and E. phaeton, 26 July (Huron Co.). County records: (Perkins), Huron Co. Colias eurytheme, 31 July. Jackson Co., 26 June, L. thoe and L. archippus. Oakland Co., 11 July, A. lyciades. Voss had good results with M V light at the U. of Michigan Biological Station in Cheboygan Co. Several new species of Noctuids were taken and a striking increase in numbers and species of the families Thyatiridae and Limacodidae was observed. T. lineola was taken in southern Cheboygan Co. many miles from the previous northern Cheboygan Co. record. Seaborg reports the following captures at Wakelee, Cass Co., 9-10 July. E. v. metacomet, E. dion, E. conspicua, P. massasoit, A. delaware, P. coras, T. pylades, A. lyciades, S. melinus, C. titus, S. acadica, L. p. americana, E. phaeton, B. toddi, L. p. anthedon, E. mitchellii and E. cymela.

WISCONSIN: Sieker found Colias species abundant during early spring and observed M. gryneus in some numbers. E. olympia was fairly common in Waushara Co., L. p. americana was very common in late May. July in Door Co. was excellent for moths with the greatest variety of Noctuids, Geometrids and Notodontids ever experienced, plus many fine Micros. Spingidae were common including P. excaecata P. myops, C. undulosa, C. amyntor, D. myron, S. geminatus, S. cerisyi, H. thysbe, L. bombycoides. Sugaring at Ferry Bluff was the best in 30 years. G. Lachmund (U of Wisconsin student) collecting at Sauk City took Catocala amatryx, amestris, amica, cara, cerogamia, elisa, concupens, epione, habilis, ilia, confusa, conspicua, meskei, micronympha, serena, similis, subnata, ultronia, celia, lucinda, adraine, unijuga, agatha and junctura. The C. junctura is a state record and 500 miles north of its usual range. In addition Sieker took C. grynea, briseis and blandula in Door Co.

Seaborg collecting in Douglas Co., 14-26 June found 28 species of butterflies including A. samoset, H. s. manitoboides, C. palaemon, C. polios, F. tarquinius, L. p. americana, G. lygdamus, P. batesi, M. nycteis, M. i. carlota, B. selene, B. toddi and E. claudia. Also taken was Sphinx luscitiosa. Boughner records additional Douglas Co., captures in mid-June of C. augustinus, P. saepiolus and in early August, S. aedica and V. atalanta.

ONTARIO: Warczynski took a long series of O. macouni, 30 June - 2 July from Nipigon to Port Arthur, Thunder Bay District. Lisk and McClair noted a great scarcity of D. plexippus which is usually the most abundant late summer species. A most unusual record is E. olympia taken at Killaloe, 22-23 May. This is far to the east of the previous captures on one of the islands in Georgia Bay. P. protodice was also taken at Killaloe (several broods).

ZONE VI: SOUTHEAST: ARKANSAS, LOUISIANA, TENNESSEE, MISSISSIPPI, ALABAMA, FLORIDA, GEORGIA, SOUTH CAROLINA, NORTH CAROLINA, VIRGINIA, MARYLAND and DELAWARE

Coordinator: Bryant Mather Data received from 14 contributors, twice as many as last year: Bill Boscoe (Philadelphia, Pa.), George Ehle (Lancaster, Pa.), Richard Heitzman (Independence, Mo.), R. H. Leuschner (Gardena, Calif.), Katharine and Bryant Mather (Jackson, Miss.), Leo J. Paulissen (Fayetteville, Ark.), John M. Plomley (Hollywood, Fla.), John and Llewellyn Powell (Richmond, Va.), Mildred and Edwin C. Roshore (Clinton, Miss.), Frank Rutkowski (New York, N. Y.), Michael Schwantke (Richmond, Va.), Arthur M. Shapiro (Philadelphia, Pa.), Gerald B. Straley (Eggleston, Va.), and Barbara and Robert Taylor (Handsboro, Miss.).

ARKANSAS: The Heitzmans (JRH) joined the Paulissens (LJP) for several collecting trips in NW Arkansas and this is a joint report. Paulissen reports that drouth spells again befell NW Arkansas. Extended weeks-long periods of very dry weather occurred in June-July, September and in October-November with the annual rainfall again below average. Generally, collecting butterflies was good; moths, poor. Fairly intensive collecting resulted in 3 new butterfly records for Washington County: A. cellus, E. baptisiae (LJP) and C. nippon (JRH and LJP). Other notable county catches by

LJP included P. agarithe on 10 June, 3 E. mexicana, 1 E. hermes, 1 E. z. funeralis, 1 rare female yellow P. glaucus, 3 A. haesus, 1 M. gorgone, and a few L. marina and H. isola. Noteworthy also was finding colonies of A. cellus, L. muticum, and P. byssus all at the same place. Numbers of P. hobomok, P. yehl, E. icelus, E. martialis, H. leonardus, H. metea and F. tarquinius were also taken in the county. C. niphon was also collected in Cleveland Co. (LJP). No S. falacer were seen and many other hairstreaks were down in numbers as were N. antiopa, and L. archippus. JRH and LJP found W. otho and W. egeremet together and collected both L. p. portlandia and L. p. anhedon in the county. LJP took an A. vanillae female on December 6 surviving several spells of night temperatures of 20° and lower.

LJP reports that the appearance of Sphingidae, Saturniidae, Arctiidae and especially Catocalae at lights was very poor in 1966. Even so, 2 good sphingid catches were made in the county: C. jasminearum was taken in a light trap by O. Hite for a new county record and the second record for the state; LJP took P. juanita June 11 during the day feeding at flowers of vetch. JRH and LJP found several larvae of juanita later but nearly all died apparently from parasitism. Other notable light-trap moth catches were 4 T. velleda in mid-October for the first time in years in the county, and by O. Hite, 2 S. canadensis. LJP found tropical moths all but absent; only one E. Odora was found but one was taken at Eureka Springs, Carroll County in September by high school students. JRH found black-light collecting at Beaver Lake poor but obtained a prized D. versicolor. At Eureka Springs JRH took a number of Cogia outis and E. phaeton as well as P. h. pocahontas. Late in April A. linda, A. samoset and A. midea were good catches there and G. marcellus and S. cecrops were abundant. Mather received a female of Cressonia juglandis collected by W. R. Martin at Snowlake on 21 August.

LOUISIANA: No reports. B. Mather collected in New Orleans on 22 October 1966; one specimen taken was determined as Platysenta Sutor Gn female by Rindge.

TENNESSEE: Oak Ridge, 27 April (B. Mather): Actias luna, Diacrisia virginica, Estigmene congrua, Acronicta furcifera, Morrisonia distincta, Pseudaletia unipuncta, Anorthodes tarda, Synchlora denticularia, (one male of each); Peridroma saucia, Elaphria grata, Euphyia centrostrigaria, Pero marmoratus, Lambdina canitiaria (one female each); and Phaneta umbristria (one, sex undetermined, ident. by Powell). Columbia, 21 July (M. and E. Roshore): Nycterosa obstipata (one male); Alcoa, 29 April (B. Mather): Galgula partita (one male); Cuba, 8 July (M. and E. Roshore): Semiothisa ocellinata (one female). All of above, except the Phaneta, det. by Rindge.

MISSISSIPPI: The Roshores, Taylors and Mathers collected essentially throughout the year. Most material not yet analyzed. Seventy-one specimens, representing 16 spp. of Sphingidae, include one male Lapara conifararum and one female L. halicarniae, (det. by Riotte), from Central Mississippi, and first female Lapara known from this State.

S. N. A. Jacobs (England) determined some material for Mather and reported following, which appear to be new State records: Pyrausta rubricalis (M. and E. Roshore, Clinton, 31 August), Glaphyria fulminalis (B and R Taylor, Biloxi, 24 May), Lamprosema lentistrialis (B and K Mather, Pearl, 25 May), L. magnalis (B and R Taylor, Biloxi, Hattiesburg, 2 and 20 June and 11 July), and Nymphula gurgitalis (Edna Lancaster, Bolton, 24 September).

ALABAMA: No Reports.

FLORIDA: Rutkowski took a fresh male of Eup. claudia, 17 May, near Bogie Channel, Big Pine Key, but saw no more during next two weeks: this appears to be a range extension since Kimball did not record its occurrence SW of Key Largo. Lapara halicarniae, male (det. Riotte) taken 22 June at Archbold Biological Sta. by R. G. Beard. Plomley reported for Broward, Date & Monroe Cos. as follows: Season very wet, producing heavy plant growth, and insect population greater than usual. No migrations observed. P. monuste phileta and Ph. a. maxima very common in the Keys. Dryas j. cillene in usual numbers. Good numbers of C. eurytheme, Broward Co., May to late August. Many larger caterpillars of various spp. heavily parasitized by Tachinoidea spp.

Leuschner collected in Orange Co. and west of Miami, at Homestead and along the beach at Cocoa between 19 March and 10 May. At Rotal Palm, Everglades, 1 April, Limenitis floridensis and Ascia monuste common and Pap. palamedes seen. Some 254 spp. of moths taken at black light including one apparently new State record: Epizeuxis forbesi (27-31 March, Orange Co.). The best moth collecting was about 25 miles inland toward Orlando from Cape Kennedy, in Orange Co. in swamps on secondary road, a location made favorable both by large numbers of moths and total absence of mosquitoes, as opposed to the Miami location. Collecting here very good until 9-9:30 but at a standstill by 10 p.m.

GEORGIA: Mather took Celyphoides sp., Epiblema numerosana complex and Clepsis virescana (all det. by Powell) at Hopeville, 1 May.

SOUTH CAROLINA: No reports.

NORTH CAROLINA: K. and B. Mather took Lapara coniferarum (det. Riotte) at Charlotte, 10 August. Boscoe reported hot, dry weather preceding 17-23 July, and S. diana absent, P. interrogationis more abundant than usual. Saturniids and Sphingids in good numbers but Catocala way down, with paleogama and amica not taken. Strymon edwardsii and Pap. glaucus taken at light. Day collecting was mostly P. philenor, P. interrogationis, Eupt. h. sosybia, Eryn. juvenalis and Autochton cellus. Forty-two hours checking lights on 7 nights yielded 24 spp. of Catocala (16 spp. of Sphingids, 4 Saturniids and 5 Ceratocampids. Of these, P. myops, S. eremitis and Catocala amestris had not been taken here before.

VIRGINIA: Cold, late spring and unusually warm, dry summer made collecting poorer than usual. John and Llewellyn Powell, during week of 20 August, at Sandy Point, Westmoreland Co., found butterflies numerous but difficult to catch. Commonest was Phyc. tharos. C. philodice commoner than eurytheme, reverse of usual situation. Other spp. were Lim. archippus, J. l. coenia, P. interrogationis, E. lisa, P. communis, H. phyleus, Str. melinus, Atalopedes campestris and Poanes Zabulon. Schwantke reported many C. philodice emerging January 1 in Henry Co. after several days of unseasonably warm weather. He took dwarf Lim. astyanax, Cer. p. pegala with lower eyespot on FW absent and pap. marcellus. Straley reported Atrytone delaware and Str. cecrops much more common than usual; Mitoura gryneus absent for second year. Choice spp. taken were Lephelisca borealis, Spey. diana and Polyg. faunua smythi; also two new Giles Co. records, Hesperia sassacus (4 June) and Thorybes confusus (15 May), both at Eggleston. A new Montgomery Co. record, Atrytonepsis hianna, Blacksburg, 17 May (Peter Gati, graduate student at Virginia Tech). V. cardui observed ovipositing on Malva rotundifolia.

MOTH collecting very good, especially for Pyralids and Arctiids. Apantesis persephone and intermedia more common than usual. M & E Roshore, at Hollins, 7 July, took Scopula limboundata (det. Rindge); K & B. Mather at Petersburg, 6-8 August, took Melanolopia canadaria choctawae and Epimecis hortaria (det. Rindge), and Coelostathma discopunctana, Choristoneura rosaceana and Clepsis peritana (det. Powell). B. Mather, at Arlington, 26 June, took Leucania scirpicola, and at Richmond, 22 June, took Pleuroprucha insularia and Eupithecia miserulata (all det. Rindge).

MARYLAND: Referring to 1965 Summary, Ehle reported S. cecrops had previously been taken in Maryland.

DELAWARE: Shapiro found Poanes viator very abundant and took one B. philenor, 24 July, Bombay Hook Wildlife Refuge.

ZONE VII: NORTHEAST: PENNSYLVANIA to MAINE and QUEBEC.

Coordinator, L. P. Grey. Contributors: W. Boscoe, A. E. Brower, R. Bryant, J. Cadbury, C. Curtis, G. Ehle, P. Grey, H. Hensel, J. Holmes, J. Keji, D. Lennox, B. Mather, R. May, F. Rutkowski, D. F. Schweitzer, J. Smaglinski, P. Ward and B. Williams.

CANADA: Brower took a late August-early September trip through New Brunswick and Nova Scotia, spent app. 16 hours afoot in unfavorable nectar sites, averaged less than five diurnals per hour, mostly rapae and Colias. Grey had equally dismal results with field and roadside species in midsummer at the St. John Valley, N. B. paradise which is Hensel's collecting bailiwick. Evidently Hensel was wise to spend his summer at Coppermine: The burning over of some formerly splendid old field areas is not sufficient explanation of a scarcity which was quite general, suggesting that this last major Northeastern reservoir is beginning to feel the pinch. Again, significantly, the pocket-area specialties remain unaffected; it is the field and roadside populations which are hurt first and worst, as has been the experience southerly. The Quebec-N.B. border bog in Temiscouata Co., P.Q., swarmed with eunomia, for example, while the bordering roadside was astonishingly barren. Fall collecting in the Green River, N.B. region was unaffected; Hensel reported P. gracilis swarming but was unable to turn on the sunshine long enough to convince his visitors of the fact.

It was one of the better years for Speyeria, not only in N. B. but also generally throughout the whole Zone, and another generality to enter here is the cyclic low in the Monarch butterfly throughout the Northeast. On Mt. Albert, P.Q., in mid-July, Grey and Lennox were able to pin down some of the Oeneis idiosyncracies. One chryxus was taken, flying in the mossy taygete habitat, suggesting little except that it definitely occurs here and is either quite rare or its spot preference not yet established, also that earlier rumors of it being found at lower elev. are probably erroneous. The polixenes very definitely prefers the flatter, rockier, more barren spots, comparatively "low". This huge mountain still remains a largely unworked and poorly reported gold mine; it has an astonishing variety of micro habitats despite the relatively slight differences in elev. between the peaks, ridges and flatlands. The occurrence of oe. melissa is questioned since it appears that the polixenes here are very dark (altogether distinct from the tawny p. katahdin) and easily could be mistaken for the former species. The Mt. Albert polixenes is going by when taygete is coming on fresh, at the noted date. Lennox crossed the border at Chartierville, P.Q., just north of Coos Co., N. H., and located a colony of P. gracilis on the hill which can be seen from the border station. Philip Ward took Thymelicus lineola at Halifax, 9 July to 10 August; also reported Strymon acadica at Brudnell, Kings Co., Prince Edward Id., 15 August (R. Jollata leg.).

MAINE: Brower's southern county report was sadly "normal": 56 field trips; 2,761 car miles; 71.5 miles, app. 86 hours afoot, in all of which time 1363 individual diurnals were counted, of 43 species. Of these, over 50% charge off to Colias and Pieris trash. Of 9 species, only 1 specimen recorded and of 17 other species 8 specimens or less. "Time and

again only 3-5 species would be seen on a field trip"... This, from our keenest, hardest-working field hound! Grey's central Maine notes similarly poor for field-roadside things, much better for local specialties, e.g., Incisalia up high, niphon having a real population explosion, greatest in 40 years, G. lygdamus continuing to build up a bit (recent intrusion) and E. comyntas seen again after long absence, P. saepiolus continues down. The Katahdin Oeneis colony thriving and 1 eunomia taken on the Tableland, indicating that the "Klondike" colony still survives. Moths as a whole fair to slightly below normal. A few Maine geometrid records reported by Mather. Most striking feature of '66: Even those greatest of calamity wailers, the farmers and the bug hunters, all agreed the past summer was the "best" we have had for many a year.

NEW HAMPSHIRE: Boscoe, Cadbury and Curtis note West Rumney captures, 1 June: I. niphon, F. tarquinius and the sphingid S. abbotti. Holmes found semideca plentiful on Mt. Adams, 9 July. The montinus peaked early, were in large numbers but going by at Cragway, 14 August. Someone should look into the favorable-appearing montinus habitat around the Lake of the Clouds; Lennox thinks this and other southern slope localities have been poorly explored. H. laurentina was common on goldenrod in old fields, northern Coos Co., in August. Mather lists a few moths from N.H. and Vt., the latter being the only reports from that State.

MASSACHUSETTS: The A. octomaculata continue to swarm at Cambridge, according to Boscoe. He took I. henrici and A. hegon at Framingham on Memorial Day. Holmes submitted a list of diurnal records from the Cape Ann, northeastern area, of special interest being H. leonardus, a skipper which is seldom reported. Flower, reporting for Berkshire Co., notes that spring emergences were nipped by a cold spell. A P. troilus was taken at Pittsfield and the lo moth was more plentiful than usual.

CONNECTICUT: Williams submitted a brief report on moths taken at Pomfret, noted some good sphingids, etc., and a Sthenopsis argenteomaculatus, 17 June. The year about "normal" for weather and populations but the spring very cool. a few moths listed by Mather from So. Lyme.

NEW YORK: Keji found C. tullia in four spots at Ray Brook (Essex Co.); flight from 26 June-12 July, and again in mid-September. Weather unusually warm. Monarchs scarce here as elsewhere. Shapiro collected in Tompkins Co. from September on; he comments on the oddity of the typically Austral P. communis, taken at McLean Bog Reserve, 14 October, also describes foodplant and other peculiarities of this grizzled skipper. Rutkowski offers perhaps the most amusing record of the year, viz, of S. falacer (several) flitting in the canyons of Manhattan!

NEW JERSEY: A report from Boscoe, Cadbury and Curtis lists several Catocalas taken at light in Lakehurst, and he (Boscoe) raises the question of Sphinx luscitiosa being extinct since it is never reported. (It was taken in Maine this year, but seems always to be a great rarity....LPG). May has his usual careful data of diurnals vic. Caldwell, notes M. nycteis and T. lineola both high, also remarks on moths and various larvae observed. May's reports, like several others for this Zone, are seldom extensive but are growing in value because of the continuity of data on common species over many consecutive seasons. Rutowski took pains to check for population explosion of S. falacer in N.J. but found it normal and offering no explanation of the freak Manhattan intrusion. Shapiro witnessed the rare Thecla ontario on pine barrens at Brown's Mills, Burlington Co., 18 April, the date indicating a spring brood (he recorded it here previously in midsummer). He also noted I. irus ovipositing here on Baptisia australis. Apparently P. troilus was unusually high in N. J. this season; Rutowski and others commented on this. Mather has a couple of moth records from Ridgefield Park.

PENNSYLVANIA: Extensive reports, highlighted by Shapiro's detailed resume of weather and other seasonal data and his extensive list of notable "unusuals" including range extensions, foodplant observations and new County records. New from Chester Co. (vic. Devon, lowland Piedmont, rich deciduous) are these moths: Celiptera frustulum, May-August; Lystrosia unitaria, late June; Syssaura puber, June-July, Hyloicus eremitus, July-August; Fentonia marthesia, early July; Ecpantheria deflorata, 8 July; Apantesis virgo, July-August (an "even-number year" specialty); Paectes oculatrix, 10 August; Catocala tristis, 10 August; Mocis texana, 25 August; Timandra armaturaria, 25 August; Scolecocampa liburna, 25 July. Further record of Heliothis phloxiphagus seems to confirm this western species resident here. A great many valuable observations omitted again by the coordinator who can only advise interested students that Shapiro displays professionally competent knowledge of the Lepidoptera and the ecology of this region; his reports on file and his command of related data should be of outstanding value to specialists. His diurnal records are ably reinforced this year by contributions from Ehle, Prescott, and the Boscoe team. Ehle, Lancaster Co., reports the only "outstanding" feature of the past several years has been the increasing poverty of good collecting; he says the only two species holding up well are E. clarus and P. glaucus. Boscoe, in Pike Co., took Cossus centereneis, 15 June, first record, says dry season made for poor collecting. Prescott has a complete report for all diurnals observed in Erie Co., found Theclinae plentiful, Speyeria abundant (except for idalia, which is way down). Schweitzer took Lyc. a. fm lucia, May 8, Schwenksville, Montgomery Co., and following moths: Metaxagles viatica, January 23, 1967 at bait, Strafford, Chester Co., and Oncocnemis riparia (vi-28), Tarache aprica (vii-27), Catocala subnata (August), C. andromedae (late July), Prodenia orthnigalli (v-6), Mellilla xanthometata (July and September), and Cossus centerensis (vi-4) all at Strafford, Chester Co. Also Catocala coccinata var. circe (vii-18 and 22), Wayne, Delaware Co. and M. xanthometata (July-August), St. Davids, Delaware Co. Smaglinski took Pap. troilus (viii-11), Schuylkill Co., (common), E.

baptisiae, E. persius and I. irus (May), Berks Co., P. viator (vii-16), Tinacum Wildlife Refuge.

ZONE VIII: THE FAR NORTH. Coordinator: Lee D. Miller. Contributors: J. A. Ebner, H. Hensel, K. W. Philip, W. T. Phillips and R. Woodley.

The response this year was highly gratifying. Never before have so many contributors reported for this area.

NORTHWEST TERRITORIES: Ebner reports on a collection of specimens from Chesterfield Inlet taken between 12 and 24 July, including Colias hecla (common), nastes, palaeno and boothii, Boloria pales, eunomia, frigga, polaris and chariclea (common), Oeneis taygete (common) and melissa, Erebia rossi and a single Lycaena phlaeas. Hensel collected at Coppermine between 19 June and 14 July, taking the following: Colias boothii, hecla, palaeno and nastes, Boloria polaris, improba, chariclea, eunomia and napaea, Erebia rossi, disa and fasciata, Oeneis bore, melissa and polixenes, Plebejus aquilo and optilete, Lycaena phlaeas and Parasemia lapponica gibsoni.

YUKON TERRITORY: Ebner reports on a large collection from the Southwestern part of the territory, including about 50 species. Particularly notable among the specimens taken were Papilio machaon (mostly worn -- 4500-5000'), Colias pelidne, nastes and hecla, Euchloe ausonides and creusa, Boloria frigga, eunomia, napaea, improba and distincta (the last two taken on 17 July at 5000'), Oeneis chryxus (caryi?), melissa, polixenes and taygete, Erebia youngi, Incisalia polios, Lycaena phlaeas and dorcias, Polites draco (!) and Erynnis persius. Woodley collected north of Whitehorse on 22 June, taking Erebia discoidalis, disa and episodesa, Oeneis taygete, Boloria frigga, Colias hecla, Pieris napi and Euchloe ausonides. He also collected at Klondike Pass (Mi. 46-47 of the Dempster Highway) on 23-25 June, taking Erebia fasciata, rossi, and youngi, Oeneis taygete, Plebejus optilete, Glaucopteryx lygdamus, Pieris napi, Boloria eunomia, chariclea, freiija and frigga, Papilio machaon and Colias hecla.

ALASKA: Ebner received several examples of Pieris napi hulda from Kodiak Island, taken between 21 and 28 June. Phillips took the following species at Lazy Mountain, near Palmer: Parnassius phoebus, Papilio machaon and glaucus, Pieris napi, Colias palaeno and nastes, Lycaeides argyrognomen, Plebejus optilete, Boloria napaea, polaris, freiija and chariclea, Speyeria mormonia bischoffii, Coenonympha tullia kodiak and Oeneis bore. At Index Lake, Glenn Hwy., Phillips collected Euchloe ausonides, Everes comyntas and Phyciodes campestris. On the Richardson Hwy., 140 mi. from Valdez, Phillips took Lycaeides argyrognomen. At Mi. 119 of the Steese Hwy. Woodley collected Colias palaeno, Papilio machaon, Plebejus optilete, Erebia rossi, Limnitis arthemis and Carterocephalus palaemon between 28 June and 1 July. At Eagle Summit (Mi. 106-108 Steese Hwy.) on the same dates Woodley took Erebia fasciata, discoidalis, youngi and rossi. Oeneis taygete, Boloria eunomia, napaea, improba and frigga, Colias nastes, Pieris napi and occidentalis, Papilio machaon and Parnassius eversmanni. On 5 July Woodley collected several Erebia, Boloria and Oeneis at Highway Pass, McKinley National Park. K.W. Philip provided an extremely detailed report of his and his wife's collecting in inland Alaska. Unfortunately, space does not permit reproducing the entire report. One new state record is reported: Incisalia augustinus was taken at Goldstream Creek on the Sheep Creek Road, about 11 mi. NW of Fairbanks, 9-vi-1966. The bulk of the report concerns specimens taken in four localities: Tanana Valley (T), 3 June to 30 August, Canadian Zone with some Hudsonian - 2300-2800' elevation; Black Rapids, Mi. 229 Richardson Hwy. (B), 2 July - 2000'; Eagle Summit and vicinity, Mi. 88-113 Steese Hwy. (E), 19 June and 4 and 16 July, an above timberline area - up to 4000'; and the Yukon Valley near Central, Circle Hot Springs and Circle (Y), 16-17 July. The species recorded are: Carterocephalus palaemon (T), Erynnis sp. (T), Papilio machaon (E, Y), P. glaucus (T), Pieris napi (E), P. protodice (E), Colias hecla (E), C. philodice (T, B, Y), C. gigantea (T, Y), C. palaeno (T, E, Y), C. nastes (E), Euchloe ausonides (T), Incisalia augustinus (T), Lycaena dorcias (T, Y), Lycaeides argyrognomen (T, B, Y), Plebejus saepiolus (T, B), P. optilete (T, B, Y), P. aquilo (B), Everes amyntula (T, B), Glaucopteryx lygdamus (T), Celastrina argiolus (T), Limnitis arthemis (T), Nymphalis antiopa (T), Polygonia faunus (T), P. gracilis (T), Phyciodes campestris (Y), Boloria napaea (E), B. frigga (T), B. improba (E), B. freiija (T), B. titania (T, Y), B. eunomia (E), Coenonympha mixturata (B), Oeneis taygete (T, E), O. melissa (E), O. polixenes (E), Erebia rossi (E), E. disa (T), E. magdalena (!, E), E. fasciata (E), E. discoidalis (T), E. youngi (E), E. episodesa (T).

Philip finally reports on two species of moths which were important pests on forest trees in interior Alaska. Choristoneura conflictans caused heavy defoliation of aspen from Fairbanks to Delta Junction and northward. Adults flew from 24 June through mid-July. Eulype hastata defoliated birch in the same general area.

NORTHERN BRITISH COLUMBIA: Woodley collected the following species between Mi. 379-449 of the Alaska Hwy. (near Muncho and Summit Lakes): Erebia disa and rossi, Boloria titania and polaris, Speyeria mormonia, Phyciodes campestris, Plebejus aquilo, Lycaeides argyrognomen, Everes amyntula and Colias palaeno. All these specimens were taken on 11 and 12 July. The following day at Mi. 150 of the Alaska Hwy. Woodley took Erebia episodesa, Boloria frigga, eunomia and titania, Euphydryas anicia, Colias palaeno and hecla, Pieris napi and Euchloe ausonides.

NORTHERN MANITOBA: Ebner received the following species taken between 30 June and 22 July: Pieris napi, Colias nastes, hecla and gigantea, Oeneis taygete, Erebia rossi, Boloria eunomia and frigga and Vanessa cardui.

ZONE IX: THE NORTHERN NEOTROPICS. Coordinator: E. C. Welling M. Contributors: Richard S. Funk, Bryant Mather, E. C. Welling M.

GENERAL WEATHER during 1966: The first five months were unduly wet throughout the Peninsula of Yucatan and Guatemala, as frequent "northers" blew south across the Gulf of Mexico and caused precipitation in what should have been the dry season. This was also true along the Pacific slopes and lowlands of Southern Guatemala. In early May, tremendous downpours flooded parts of British Honduras and other parts of the peninsula. After that, the rainy season advanced normally, and stopped normally in October in the northern parts of the peninsula, as well as in the interior and southern areas of Guatemala.

MEXICO: BAJA CALIFORNIA NORTE: Funk, collecting on the Gulf of California, 14 miles south of San Felipe, where none has been done recently (13-15 May), found Pholisora libya, Pyrgus albescens, Pieris protodice, Colias eurytheme, Eurema nicippe, Incisalia iroides, Chlorostrymon simaethis, Ministrymon leda, Brephidium exilis, Hemiargus isolus, Danaus gilippus. At Algodones (16 May), he found Lerodes eufala, Papilio crespontes and Phyciodes phaon.

SONORA: Funk took Lerodes eufala, Hylephila phyleus, Phyciodes phaon and Brephidium exilis at San Luis R. C., 1 August.

MICHOACAN: Mather reports a friend taking Citheronia splendens, Epantheria muscashionis, Pericopis fortis and Heterusia discordata at San Jose Purua in June.

GUATEMALA: ALTA VERAPAZ: Welling, May to early October, took about 30,000 butterflies in the lower, humid temperate zone at Baleu, Municipio San Cristobal Verapaz, 1350 meters. Local people remarked that fewer butterflies were seen during 1966, and it was a struggle to accumulate the above numbers, flying side by side with greater number of temperate zone affinities and strong intrusions representing a hot, dry, low interior-valley fauna which flew up from the Chixoy River valley. Interesting species, but not especially common ones, were taken, such as Papilio pilumnus, thymbraeus, erostratus, garamas, victorinus, Dircenna sp. nov., Heliconius cydno, sapho, doris, Pereute charops, Phoebis intermedia, Dismorphia virgo, Athena corita, Hyoscada virginiana, Callithomia hezia, Eurema xanthoclorata, Epiphele sp., Prepona phaedra, P. sp., Anaea neidhoeferi, Adelpha godmani and Eunice spp. Much commoner were Papilio polyxenes, Heliconium hortense, Eueides alipha, E. edias, Ituna lamirus, Danaus plexippus, Morpho peleides, Atrotopos melantho, Olyras theon, Melinaea lilis, Leptophobia aripa, Diamorphia nemesi, D. praxinoë, D. fortunata, D. mita, or near it, Catantix flisa, C. nimbice, Adelpha spp., Eresia phyllira, and many Phyciodes spp. From La Vega del Guajilote, Baleu, Mpio San Cristobal Verapaz, 700 meters, came Graphium epidaus, Victorina steneles, Anartia jatrophae, Microtia elva, Ageronia atlantis (!!), and Eurema daira. At the Baleu and La Vega del Caujilote localities, many single specimens were taken of species probably limited to the hot, wet, lowlands north of the Chama Mts. These probably flew up the Chixoy River Valley and penetrated the temperate areas in very small numbers. Interesting nocturnal collecting was done with black light. Many finer Saturniids and other moths were at San Cristobal Verapaz that were not at Baleu. Sphingids everywhere were of the common widespread species, except for two sp. of Sphinx taken at Baleu at flowers in the evening.

EL PETEN: A short trip to junction of Rio Chajmayic and Rio Santa Izabel, on the border between Alta Verapaz and El Peten, at Seboc, turned up fine Hesperids and a few Erycinids, but all in all, collecting was very poor in early September.

EL PROGRESO: At Jutillo, Mpio. Morazan, 600 meters, some interesting Chlosynes were seen, but only two taken, in July. At El Rancho, a few Cossidae and a Phlegathontius quinque maculatus were taken at a gas station in early May.

SOLOLA: In late October, five days of collecting at the twin localities of Chaquijya, Mpio. Solola, and Chuchexik, Mpio. Santa Lucia Utatlan, both at 2250 meters. Between rains and drizzles a few very fine things were seen and collected, including interesting Phyciodes spp., strange Satyridae, including an odd looking Pedaliodes, Nymphalis antiopa, Vanessa virginiensis, Eurema mexicana, Dismorphia praxinoë, Papilio multicaudatus, Celastrina argiolus and odd Hesperids. Sphingids caught represented common species.

CHMALTINANGO: Caman, Mpio. Patzún, 2100 meters, yielded some Leptophobia aripa, Catantix teutila and flisa, and high-altitude Hesperids in late October. Quisache, Mpio. Acatenango, 1750 meters, was worked again during November and early December. Weather extremely windy for weeks at a time, yet in a ravine fine series of Lycaena pyrrhia was taken along with Anaea nobilis in small numbers, Anetia thirsa, a few Papilio, and many common species taken during 1965. Night collecting was poor for weeks at a time due to wind and then the moon, but one silent foggy night produced at least 1,000 Geometrids, not counting moths of other families. Sphingids continued to be common species, more peculiar to the lowlands than to the mountains. Panajabal, Mpio. San Pedro Yepacapa, 1250 meters, was worked one day with two Heliconius octavia and several Ascia amaryllis taken along with other things in July.

SACATEPEQUEZ: A trip was made to Palin, 1000 meters, to see a fiesta, but swarms of butterflies were noticed being tossed about by the strong winds which are very notorious along the Pacific slopes of the southern ranges that face the ocean. Perhaps here is a good collecting ground for a future expedition. At Antigua Guatemala, 1500 meters, some Catantix and Papilio multicaudatus and photinus were seen.

MIGRATION OF VANESSA CARDUI in 1966.

Without attempting to draw any conclusions, we are giving here the data on the migration of the Painted Lady in 1966 that were reported.

NEW MEXICO: Holland noted heavy NW migration at Devil's Park, Catron Co., April 22.

ARIZONA: Funk reported migration reached peak in first week of May. Driving on U. S. Highway 80 east from Yuma at 60 mph, 2 May, he counted 14-26 butterflies per minute (per mile) crossing his lane. Flight generally northward.

CALIFORNIA: Shields noted migration northward between Descanso and Mt. Laguna, San Diego Co., and at 1 mi. E of Pine Valley counted 56 and 80 during 5 min. intervals at about 9 a.m., April 16.

COLORADO: F. M. Brown and Shier noted swarms of cardui May 1-2, near Golden, and on May 2 counted one about every 50 ft. flying NE. Brown reported many larvae on thistles on Ouray first part of June.

OREGON: McCorkle reported flight beginning April 17 at Monmouth, Polk Co., going north. Peak occurred May 7-8, with nearly one per second crossing 30 ft. line. They had been fairly common in fall of 1965.

WASHINGTON: Newcomer noted cardui fairly numerous in fall of 1965 in Yakima Valley. A warm spell of weather May 1-9, 1966, reaching a maximum of 95° F. May 5. Few cardui noted before that date, but migration towards NE was heavy May 5-9, when it was stopped by windy weather. Counts made May 9 at several locations showed 15 to 45 per minute crossing line about 100 ft. long. In a canyon at 2000 ft. elev. nr. Satus Pass on May 9, they were flying from W to E although the canyon runs north and south. Using the above figures and assuming migration occurring for about 8 hrs. each day, it may be estimated that some 80 million butterflies crossed a line 20 miles long in 5 days in the Yakima Valley. In June, larvae were common on thistles and a newspaper reported farmers were happy that they were destroying the thistles, although this reporter did not see any such destruction. Fresh adults were appearing by the end of June and on July 9 both fresh and worn specimens were seen in the Yakima Valley.

Rogers reported migration in northern Okanogan Co. for about a week, with maximum on May 8; and in a valley E of Chesaw which runs east and west, the migration was south to north. The butterflies were coming down a steep hillside, crossing a lake, and going up another steep hillside to the north.

BRITISH COLUMBIA: Newcomer observed considerable numbers of cardui in the Okanogan Valley on May 20-22.

MIDDLE WEST AND EAST: Cardui noted in increased numbers in Minnesota. Covell reported common in Kentucky, and Hoying reported consistent flight to NE in Ohio, peaking June 19, when about 25 per hr. were counted. Schweitzer reported large numbers in dry fields, Camden, Maine, first week of August, and larvae common. - - -

The Editor.

Memoirs of the Lepidopterists' Society, Number 1 (Feb. 1964)
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Cyril F. dos Passos

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December 1966

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