

Editorial Committee of the NEWS

E. J. Newcomer, Editor

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ANNUAL SUMMARY IN THIS ISSUE

OFFICERS FOR 1966

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The President and Vice Presidents serve one-year terms; the Treasurer and Executive Council Members serve three-year terms.

Appreciation for their services during 1965 is expressed by the Society to outgoing officers: President Rindge, Vice Presidents Common, Agenjo and Hinton, and Executive Council Members Ae and Brower. And we express our very special appreciation to out-going Treasurer, George Ehle, for serving a full year beyond his regular term after it was learned that last year's nominee could not serve.

DR. C. L. REMINGTON NEW HONORARY MEMBER

The Executive Council for 1965 unanimously approved for election as an Honorary Member, Dr. Charles L. Remington, of Yale. The membership has elected him. He is so honored for his outstanding contributions to the science of Lepidopteroogy and particularly for his efforts in organizing and developing the Lepidopterists' Society, and the members give him a vote of thanks.

Dr. Remington is the sixth living Honorary Member. The other five are: Dr. Annette F. Braun, Professor William T. M. Forbes, Dr. E. B. Ford, Prof. Dr. E. M. Hering and Dr. C. B. Williams.

MEETINGS

The 17th Annual Meeting of the Lepidopterists' Society will be held at Ottawa, Ont., Canada, May 30 - 31, 1966. For details, see 1 March NEWS.

The 13th Annual Meeting of the Pacific Slope Section of The Lepidopterists' Society will be held at Santa Barbara, Calif., June 11-12, 1966 (instead of June 18-19) For details see Page 7, 1 March NEWS.

The 50th Annual Meeting of the Pacific Branch of the Entomological Society of America will be held in San Diego, Calif., June 21 - 23, 1966. For further information write: Y. P. Sun, Shell Development Co., Box 3011, Modesto, Calif., 95353.

NEW MEMBERS

BECHTEL, William A.	Box 13, Washington Crossing, Pa., 18977, U.S.A.
DOYLE III, Joseph F.	6127 Thunder, San Antonio, Tex., 78238, U.S.A.
FLOWERS, R. Willis	177 E. New Lenox Rd., Pittsfield, Mass., U.S.A.
HUGHES, Keith C.	518 N. San Antonio Ave., Apt. 3, Claremont, Calif., 91711, USA
TABBASCIO, Richard M.	234 William St., Port Chester, N. Y., U.S.A.
WRIGHT, David Allan	18 Clinton Place, Woodcliff Lake, N. J., U.S.A.
WUTTKEN, Robert J.	2100 W. Colfax Place, Milwaukee, Wisc., 53209, U.S.A.

NEW ADDRESSES

BOWE, Dr. John J.	249 Mountain Ave., Ridgewood, N.J., 07450, U.S.A.
CARCASSON, R. H.	The National Museum, Box 658, Nairobi, KENYA
CLARKE, Louis C.	10435 Georgetown Dr., Rancho Cordova, Calif., 95670, U.S.A.
HUBER, Harding	6739 Golden Valley Rd., Golden Valley, Minn., 55427, U.S.A.
LORKOVIK, Prof. Dr. Zdravko	Bioloski Institut, Medicinskog Fakulteta, Zagreb, I, Salata 3, YUGOSLAVIA
MASTERS, John H.	Box 7511, Eastern Heights St., St. Paul, Minn., 55427, U.S.A.
REID, Ed	5002 San Vicente Blvd., Los Angeles, Calif., U.S.A.
SHENEFELT, Dr. Roy	Dept. of Entomology, 346-A Russell Laboratories, Univ. of Wisconsin, Madison, Wis., 53706, U.S.A.
SULLIVAN, J. Bolling	3214 Duke Homestead, Durham, N. C., U.S.A.
WELLING M, Eduardo C.	Aptdo Postal 701, Merida, Yucatan, MEXICO

RESEARCH NOTICES

NEEDED FOR RESEARCH: 1966 SEASON: Living pupae of Nathalis iole in quantity. Please write giving details. A. M. Shapiro, 7636 Thouron Ave., Philadelphia, Pa., 19150.

WANTED: Colorado specimens of Paleacrita speciosa to complete work to determine status of that species in relationship to P. vernata Peck. Loans of speciosa suspects from Colorado would be greatly appreciated. Correspondence should be addressed to Dr. Fredrick Rindge, Mr. Bryant Mather or myself. John T. Sorensen, 5309 - 37th Ave., Minneapolis, minn., 55417.

URGENTLY NEEDED for research project to begin this spring: Information on Callosamia promethea, especially list of all known foodplants. I also need one dozen live cocoons raised in Georgia, Florida or Louisiana and one dozen cocoons raised in Minnesota, Maine or Canada. David A. Wright, 18 Clinton Place, Woodcliff Lake, N. J.

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.

WANTED: Interested lepidopterists in California willing to spend six to eight weeks collecting this summer in Arizona and possible Florida. Write Glenn A. Gorelick, 418 1/2 2nd St., Davis, California 95616.

FOR IMMEDIATE SALE: Living polyphemus cocoons from 1965 crop in lots of 100 or more, 30¢ each plus postage. Will also accept assignments to rear polyphemus, cecropia, io, luna, promethea, cynthia and possibly other species during 1966. Larry J. Kopp, care Miss Faye Arlene Kopp, Rt. 1 Klingerstown, Pa., 17941

INSECT PINS for sale: All sizes. \$4 per thousand, plus 10¢ per M postage. Clair Armin, 417 Palm Avenue, Reedley, California 93654

REARING INFORMATION REQUESTED: Has anyone found the combination of environmental factors necessary to bypass the overwintering larval diapause in Arctiidae, especially Haploa? I would also like to hear from anyone who has had experience rearing Haploa. Julian P. Donahue, Michigan State University, East Lansing, Michigan 48823, U.S.A.

FORMOSAN BUTTERFLIES, moths beetles and other insects, common and rare species as well as aberrations for sale. Price lists available on receipt of information of your specific needs. Mrs. Chang Pi-Tzu, Box 873, Taipei, FORMOSA (TAIWAN).

WANTED TO BUY: Edwards' Butterflies of North America, 3 vols., N.Y., 1868-97; Scudder's Butterflies of the Eastern United States and Canada, 3 vols., Cambridge, Mass., 1889. Please describe and state price. The Rev. Norman Bowen, Hope, North Dakota, 58046.

FOR SALE: Fine bound copy of Holland's Moth Book and Butterfly Book in one volume. Both \$38. Out-of-print books available. Send for list. J. J. Nadolny, Box 53, New Britain, Conn., 06050, U.S.A.

FOR SALE: Large selection of worldwide Lepidoptera and Coleoptera in papers. Excellent condition, complete data, reasonable price, and wide variety. Write for price list. Wayne W. Klopp, 6226 N. Normandy, Chicago, Ill., 60631, U.S.A.

WILL EXCHANGE unused Exide EB 2A 6 and 12 volt battery charger (suitable for black light apparatus) for N. A. Lepidoptera with data. Frank Rutkowski, 153 Centre St., New York, N. Y., 10013.

WANTED: One doz. live Callosamia angulifera cocoons, male and female mixed. Also want copy of Holland's Moth Book. David A. Wright, 18 Clinton Place, Woodcliff Lake, N. J.

SPECIAL NOTICE

NOW OR NEVER: Many Society members and institutions have already furnished their Texas reports of butterflies and skippers for inclusion in the forthcoming Texas Check List. Have you? We would not want it said that the speciation, spatial or temporal distribution is incomplete simply because YOUR records were not included. THIS IS YOUR LAST CHANCE. We need your Texas records of all butterflies and skippers, common or rare. Please give species (dos Passos Check List numbers may be used), date, locality and number collected or in your collection. Sex and condition is desirable but not essential. Send to Roy O. Kendall, 135 Vaughan Place, San Antonio; Tex., 78201. Appropriate recognition will be given all contributors. DO IT NOW!

NEWS NOTES

A news item in the 15 April, 1965, NEWS described some work being done by Mr. Malcolm Barcant in Trinidad on the early stages of Morpho peleides insularis. M. peleides occurs in Venezuela and this sub-species is found only in Trinidad and it is the only Morpho on that island. Mr. Barcant now sends an illustrated story recently published in a Trinidad newspaper telling about the successful mating of this species in a large cage, and he now has nearly 200 caterpillars developing. This is a research project carried on in cooperation with the Emperor Valley Zoo; it is intended to develop, if possible, 'the now slight magenta sub-marginals which in the field are absent in the male and only slightly noticeable in the female'; also to obtain data on the normal proportions of males and females. It has been established that the life cycle takes three months from egg to butterfly.

WORD FROM THE TREASURER

There has been some confusion and misunderstanding about ordering separates of RECENT LITERATURE on Lepidoptera. Those who have ordered these separates from Vol. 20 will not receive them before January 1967. This is because Vol. 20 will not be completed until late 1966. The separates are then collated for mailing to those ordering. Anyone who ordered and paid for separates from Vol. 19, or earlier volumes, and who has not yet received them, should notify the Treasurer, Roy O. Kendall, 135 Vaughan Place, San Antonio, Texas, 78201, U.S.A., giving complete details and amount paid. Members desiring separates of Recent Literature on Lepidoptera from earlier volumes of the Journal may order them from the Treasurer. Please send \$1.00 per volume and indicate which volumes are desired.

WANT TO HELP YOUR SOCIETY? Here are a few ways: Pay your dues immediately upon receipt of notice. Notify the Treasurer immediately of any change of address. If you intend to discontinue membership, notify the Treasurer; don't wait until your dues are in arrears; otherwise you will be billed for membership, or dropped because it is believed you are dead. Remember, your officers serve without pay. They have other full-time jobs and part-time research projects of their own. The Society is becoming quite large and anything you can do to eliminate unnecessary administrative work will help tremendously.

NORTH AMERICAN ANNUAL SUMMARY FOR 1965

ZONE 1: CALIFORNIA, ARIZONA, NEVADA: Coordinator: Fred Thorne; Contributors: R. Breedlove, J. Emmel, R. Funk, C. Henne, P. Herlan, J. Hessel, N. LaDue, J. Lane, R. Langston, R. Leuschner, E. & S. Perkins, K. Roeber, A. Shapiro, O. Shields, R. Stanford, W. Steele, R. Wielgus.

CALIFORNIA: Season warm and dry, early in winter and spring, shifting to late following heavy rains and snows in March and April, remaining two weeks late until fall, terminated with heavy precipitation in November and December. Collecting generally no better than average; a poor year for migrations although Langston observed more D. plexippus migrating in San Francisco area than in 1963 or 1964, peaking September 10 to October 15, and Henne observed D. gilippus strigosus in a northwesterly movement through the upper Mojave deserts in June and July.

MOTHS: Leuschner reports rich moth collecting at Pinyon Crest, 4000 ft., Riverside Co., in juniper-pinyon belt from January to November, with Tiphrosa n. sp. (swarms), Eupithecia morensata, E. gilvipennata and E. hohokamae in winter; Yeromia glaucina in spring; and Catocala andromache, C. chelidonia, C. macdunnoughi and Gloveria arizonensis in July. Other good species: Synedroida biformata (May), S. pulchra (all year), Fiscea enthea (November) Oncocnemis linda (September), O. wilsonensis (May), Protoparce rusticus (August) and Cochisea rigidaria (November). At Rimforest in April he found long series of Stretchia pictapennis, three spp. of Hyelomena and other moths. At Casper, Mendocino Co., early April, many good Eupithecia spp., Oporophthera occidentalis, Feralia deceptiva, Dyostroma (?) sobsia. Henne found the rare Euhagena nebraskae intensa near Victorville, San Bernardino Co., late October with pupae on Oenothera californica. A pair of Calosaturia walterorum taken 20 March on Dictionary Hill, San Diego Co. (Rubbert).

BUTTERFLIES: COUNTY RECORDS, EXTENSIONS, UNUSUAL LOCALITIES: Pyrgus scriptum, Laguna Mts., San Diego Co., 16 May (Shields) and Pinyon Crest, Riverside Co., 17 April (Thorne); Erynnis b. lacustra, nr. Mariposa, Mariposa Co., 26 April (Stanford); Systacea evansi, nr. Warner Hot Springs, San Diego Co., 17 October (Shields); Battus philenor hirsuta (common), Redding, Shasta Co., 4 April (Perkins); P. beckerii, 16 miles NW Cuyama, San Luis Obispo Co., 13 May (Langston); Zerene cesonia, nr. Lee Vining, Mono Co., 24 July (Shields); Strymon aetorum, nr. Ukiah, Mendocino Co., 3 July (Langston); Pleb. emigdionis (abundant), Lower Haiwee Res., Inyo Co., 28 August (Shields and Emmel); Philotes b. bernardino, Dave Brown Can., Sta. Barbara Co., 22 May (Lane); P. e. enoptes, Fandango Pass, Modoc Co., 15 July (Langston); P. mojave (eastern record) and P. b. martini (western record) sympatric, Old Woman Mountains, San Bernardino Co., 25 April (Henne, Shields, Thorne); P. sonorensis, nr. Auburn, Placer Co., 2 March (LaDue); Mel. gabbii, S. Juan Bautista, S. Benito Co., 30 April (Stanford); Danaus g. strigosus, Lake Tahoe, August (Steele).

CHOICE SPECIES: Panoquina p. errans, Zuma Beach, Los Angeles Co., 22 August (Stanford); Hesp. columbia, Mt. Pinos, Ventura Co., 10 July (Stanford) and Posser Mt., San Diego Co., 8 May (Shields); Carterocephalus p. mandan, Plantation, Sonoma Co., 23 May (Henne); Pholisora (undesc., nr. alpheus), Blythe, Riverside Co., 15 August (Stanford); Erynnis p. pernigra, Marin Co., May and Mendocino Co., June (LaDue); Pap. multicaudatus, nr. Wrightwood, Los Angeles Co., and Frazier Park, Ventura Co., 5 July (Stanford) also nr. El Portal, Mariposa Co., 15 April (Perkins); P. indra pergamus, S. Gabriel Can., Los Angeles Co., 15 May, (Lane) & (numerous) Tecate Peak, San Diego Co., 24 April (Breedlove); Callipsyche behrii, Frazier Pass, Ventura Co., 5 July (Stanford); Incisalia f. fotis, Providence Mts., San Bernardino Co., 16 April (Stanford) and 23 April (Shields); Strymon sylv. desertorum, Tehachapi Mts., Kern Co., 7 July (Stanford, LaDue); S. aetorum spadix, sev. reports, also taken on Lep. Soc. field trip nr. Julian, San Diego Co., 21 June. Callophrys comstocki, same data fotis above (Stanford); Lyc. h. clara, Mt. Pinos, Ventura Co., 10 July (Stanford); Pleb. chlorina, Lebec, June, Tehachapi and Tejon Mts., July (LaDue); P. neurona, Mt. Pinos, 10 July (Stanford); Phil. mojave, Juniper Hills, Los Angeles Co., 1 May (Lane); and Pinyon Crest, 17 April (Breedlove); P. e. enoptes and P. b. intermedia sympatric, Lake Spaulding, Placer Co., 20 July (LaDue); Polygonia o. silenus, Alameda Co., (Steele); Euph. chalc. quino ("thousands"), south of Cabazon, Riverside Co., 25 April (Lane); and common, Jacumba, San Diego Co., 20 March (Breedlove); Spey. e. tehachapina, Tehachapi Mt., Kern Co., 17 July (Stanford and LaDue); S. h. viridicornis, Greenhorn Mts., Kern Co., 18 July (Stanford); S. c. leto, Lake Tahoe, August (Steele); Neominois ridingsii (?) sp., 10,000 ft., White Mts., Mono Co., 7 August (Lane); Oeneis ivallda, "dark", Echo Lake, below 8000 ft., El Dorado Co., 5 July, also above Silver Lake, Mono Co., 5 July (LaDue).

LIFE HISTORIES, HOST PLANTS, MISC.: Graptolitha dilatocula reared on Alnus rhombifolia and G. georgii emarginata on Salix laevigata, both S. Gabriel Mts., Los Angeles Co., Sphinx dollii life history completed on Juniperus californica (all Henne). Annaphila miona on Mimulus, Mather, Tuolumne Co., (Shields and Henne); Agathymus stephensi larvae abundant in Agave deserti, Mason Vy., San Diego Co., 22 June (Thorne); Pap. eurymedon ovip and larvae on Chlorogalum poneridicum; Junonia coenia larvae on Orthocarpus lacerus (all Shields); Philotes enoptes larvae on flowers of Eriogonum latifolium saxicola, S. Gabriel Mts., September (Henne); Lim. b. californica life cycle 51 days, July, August (Thorne).

Serious destruction of host plants of Pap. indra fordi as observed at type locality is deplorable and collectors should use widespread substitute hosts, such as Velaea, instead. Henne observed destruction of Asclepias erosa by rabbits seeking moisture during hot spell on the Mojave Desert, seriously affecting Danaus g. strigosus.

Good Collecting Spot: Surprise Canyon, Panamint Mts., Inyo Co., 23 August, Shields took 17 spp. Pap. b. rudkini and Ochlodes yuma.

ARIZONA: Good winter and spring rains to mid-April led to best annual display in 25 years and Anth. pima started flying 30 January, but unsettled weather then resulted in poor spring collecting. Summer rains began early, but ceased early, hence late summer collecting poor. Skipper collecting in mid-summer good.

MOTHS: Arthur Shapiro has furnished the first comprehensive record of moth collecting in Arizona for the Summary. From late May to early July he operated 3 UV traps nightly in Cave Creek Canyon, Chiricahua Mts., Cochise Co., taking over 10,000 moths. These included: Noctuidae, 138 identified spp., at least 100 more; Geometridae, 62 identified spp., at least 125 more; Notodontidae, 19 identified and 7 unidentified spp.; Arctiidae, 30 identified, 7 others; etc. Saturniidae included Automeris pamina "swarms", Antheraea polyphemus oculae, Coloradia pandora. Spingidae included Celerio lineata, over 600, 2 July, 100 nightly, a few striking aberrations; Pholus typhon, Sphinx chersis, Paonias myops. Ceratocampidae: Syssphinx heiligbrodtii. Lasiocampidae: Gloveria arizonensis. Noctuidae: 6 spp. Catocala, etc.

Unusual records: Calidota musicolor, Arachnis zuni, Apantesis williamsi, Horama texana, Ctenucha cressonana, Dasypouadaea lucens, Bomolocha abalienalis, Euclidia intercalaris, Cyathisa percara, Usogastra lunata (common), Heliothis scutosus, Rhodosea julia, Scoleocampa lunata, Ulosyneda valens, Paectus declinata, Amphidasis cognataria, Phaeoura belua and P. cristifera, Glena arcana, Pityeja ornata, Snowia pulcherrima, Fernaldella fimetaria, Inguromorpha arbeloides (common). Leuschner adds the following good spp. for the Chiricahuas: Thyatira mexicana, Paramiana viridescens, Eupithecia helena (Pinery Canyon, 6800 ft., late July). Leuschner took 173 spp. in two rainy nights at Greer and Apline, Apache Co., by sheltering the UV light under a porch, including Abagrotis bimarginalis, Graphophora bolteri, Pseudosepsis grandipennis, Protoleucania ferricolas, Schinia edwardsi, Perizoma interrupta, Hydromera cyriadoides and Pterospoda opuscularia. Others were Nemoria latrisaria (Hualpai Mts., late May) and Euproserpinus phaeton, nr. Yuma, 18 March (Funk).

BUTTERFLIES: Shapiro furnished a list of 93 spp. taken while studying species diversity as related to vegetational structure in the Chiricahua Mts. Choice spp. were: Piruna pirus, Achalarus casica, Neophasia terlootii, Phoebis philea, P. agarithe, Strymon sylv. itys, Anaea aidae morrisoni, Lim. a. obsoleta and Paramacera xicaque. Also Atrytonopsis cestus (Baboquivari Canyon, Pima Co., mid-May), Hesp. woodgatei (nr. Young, Gila Co., early October), H. juba (Chuska Mts., Apache Co., late June), Cogia caicus moschus (common, Peppersauce Canyon, nr. Oracle, Pinal Co., mid-April) all by Roever; Pap. b. rudkini, common vic. Ft. McDowell, Mariposa Co., and Florence Jct., Pinal Co., late February to mid-March (Roever); P. thoas ssp., Gadsden, Yuma Co., 28 August (Funk); Ascia j. josepha, Benson, Cochise Co., late April and Col. alexandra, Chuska Mts., Apache Co., late June (Roever); Anthocaris pima, Tucson, 20 February (Breedlove); Emesis z. ares, Sta. Rita Mts., Pima Co., 9 April (Emmels); Incisalia i. annettae, Molina Canyon, Pima Co., 8 April (Emmels); Strymon alcestis oslari, Sabino, Molino and Madera Canyons, Pima Co., late May and Camp Verde, Yavapai Co., and nr. Globe, Gila Co., mid-June (Roever); Nymphalis californica, common K.P. Cienega, White Mts., Greenlee Co., July (Roever); Melit. fulvia and Euphyd. chalc. hermosa, Molino Canyon, Pima Co., 8 April (Emmels); E. anicia alene, Chuska Mts., Apache Co., late June (Roever); Spey. nokomis nitocris, fairly common late August, White Mts., Apache Co., (Roever); and abundant White Mts., Greenlee Co., 8 - 10 September (Thorne); Neominois ridingsii, common nr. Flagstaff, mid-July; Cerc. meadii, common Ryan Ranger Sta., Coconino Co., late July (Roever); C. pegala ssp., abundant Oak Creek Canyon, Coconino Co., 21 July (Thorne) and White Mts., late August (Roever).

LIFE HISTORIES, FOOD PLANTS, ETC.: P. protodice seen ovip. on Astragalus nr. Yuma, March (Funk); Leptotes marina associated with Lysiloma thornberi, a probable foodplant (Wielgus); Chlosyne lacinia ssp. triple brooded with an occasional 4th brood at Phoenix (Wielgus); Erynnis persius ssp. ovip. on Thermopsis pinetorum (as Burns' monograph reports), Chiricahua Mts., (Shapiro).

NEVADA: Weather generally unfavorable and Herlan refers to collecting season as frustrating, reporting that snow never melted from north slopes of high peaks.

MOTHS: Gloveria arizonensis, Oak Springs Summit, Lincoln Co., 16 September and Coloradia pandora, Lake Tahoe, Douglas Co., 2 August (Herlan).

BUTTERFLIES: Hesp. c. harpalus, Erynnis persius ssp., Nathalis iole (One at 8500 ft.) Kingston Canyon, Toiyabe Range, Lander Co., 3 - 5 August (all Lane); iole also Big Indian Mt., Mineral Co., 28 July (Herlan); Apod. mormo, Carson Valley, Douglas Co., early October (Herlan and Bauer); Col. a. edwardsii, Toiyabe Range, (Lane); Call. behrii, Mitoura spinetorum, ditto; Lim. a. archippus, Lovelock, Pershing Co., 15 August (Herlan) and L. w. nevadae, topotype, uncommon, Kyle Canyon, Mt. Charleston, Clark Co., 31 July (Lane and Stanford); Euph. editha, nr. lehmani, ditto; Spey. z. cynna abundant, Toiyabe Range with yellow egleis ssp., sometimes difficult to differentiate. S. z. carolae, Mt. Charleston, Clark Co. (Thorne, too early 16 July; Lane, common 31 July, also 30 July, Herlan); Oeneis ivallda, Free Pk., Carson River (Bauer); also a new sp. of Chlosyne from the Carson Range (Bauer); Cerc. silvestreis, Lyc. rubidus and Hesp. sp., Virgin Valley, 4800 ft., Humboldt Co. (Newcomer).

Good Collecting Spot: Lane's success in the Toiyabe Range first week of August indicates this is a promising area.

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

Coordinator: E. J. Newcomer. Contributors: J. Goosey, R. Guppy, C. Henne, F. H. Holmes, S. Jewett, R. Langston, D. McCorkle, C. Nelson, E. Newcomer, S. and B. Perkins, J. Shepard, R. Woodley.

WEATHER: Unseasonably warm weather in the interior of Washington, March 5 - 12, brought some spp. out early and Call. sheridanii was flying in Yakima Valley by March 10.

BRITISH COLUMBIA: Influx of Van. cardui noted by Guppy in July.

WASHINGTON: MOTHS: Newcomer had access to moths taken in neon light traps used by U. S. D. A. research in the Yakima Valley. Mostly only the larger moths were identifiable and some of these may be new records: Protoparce quinque maculata, Sphinx perelegans, S. d. utahensis, Smer. cerisyi pallidulus, Paonias myops, Pachysphinx m. occidentalis, Cel. lineata, Catocala aholibah, C. pura and C. briseis (?).

BUTTERFLIES: New Records: Oarisma garita, Pend Oreille Co., Lycaeides a. atrapraetextus, Whitman Co., Boloria toddi, Ferry Co. (all Shepard); and B. freija, Okanogan Co., (Woodley).

OREGON: MOTHS: Jewett reports on moths taken along Nehalem R., Clatsop Co., at black light. Of 98 spp. taken, 17 were Eupithecias; scarce spp. included Erannis vancouverensis (Feb.), Oporinia omissa, Stamnodes t. albida, Eupithecia longipalpata, E. graefi, Hydriomena furcata, Drepanulatrix forminaria, Coniodes plumogeraria, Enypia packardata and Nepytia u. nigrovenaria. Henne reported Annaphila casta, Benton Co., 28 May.

BUTTERFLIES: New records: Polites coras (peckius), Wallowa Co., (Shepard); Parn. s. nr. magnus, Lyc. mariposa (dark), both Union Co. (both Langston); Euph. anicia, 9000-10,000 ft., Wallowa Mts., Wallowa Co., July (Nelson and McCorkle); Pap. oregonius, Baker, Umatilla, Morrow and Gilliam Cos. 13-14 Aug. (Perkins), indicating it probably occurs clear across E. Oregon, East of Cascades, wherever the foodplant (Artemisia dracunculoides) grows. Van. cardui, swarming, Deschutes Co., 24 July. (Perkins).

IDAHO: New records: Col. pelidne, Idaho Co., nr. Lolo Pass; Phyc. barnesi, Elmore Co. (both Shepard). Philotes b. glaucus, nr. Arrowrock Dam, Elmore Co., 11 Jul.; Phol. libya and P. catullus (poss. new), Owyhee Co., (all Langston). Possibly new: Spey. zerene, Strymon saepium, S. titus, C. oetus, L. heteronea, L. helloides and Lim. weidemeyerii, all nr. Craters of the Moon, Butte Co., 8 Aug. and P. napi, Strymon californica, Spey. c. leto, Scout Mt., Bannock Co., 12 Aug. (all Perkins).

MONTANA: Probably new records: Anth. s. julia (det. F.M. Brown), 12 mi. N. Anaconda, Powell Co., 15 Jul.; Lim. lorquini-weidemeyerii hybrid, Powell Co., 22 Jul. (both Holmes); no Oen. chryxus, 1965, Deer Lodge Co., where fairly common 1964. Goosey reported Van. cardui extremely common, Big Timber, Sweet Grass Co., July.

ZONE III: ROCKY MTS. AREA. ALBERTA WYOMING, UTAH, COLORADO, NEW MEXICO. Coordinator: Donald Eff. Contributors: Scott Ellis, Dennis Groothuis, Richard Hardesty, Richard Holland, William Howe, John Justice, John Legge, Bud and Steve Perkins, Robert Pyle, Ed and Millie Roshore, Jim Scott, Ken Tidwell, Mike Toliver and Robert Woodley.

WEATHER, FLIGHT PERIODS, AND CONDITIONS: The prediction in the 1964 Summary that a wetter cycle was coming proved to be true,--the 1964-65 winter having the most snow in nearly 30 years. April was near normal but cold, heavy snow and then rain in May played havoc with emerging insects. June was worse. Result: A poor collecting year. Lush vegetation produced by wet conditions may bring about improvement in 1966.

ALBERTA: Legge reported no P. nitra but Oen. macounii in fair numbers, this being its biennial year. Oen. beani was delayed and appeared along with Bol. alberta, astarte, Euphyd. anicia beani, Col. nastes streckeri, etc. Woodley reported taking most of these the latter part of July.

WYOMING: Hardesty and Groothuis: Strymon saepium (Converse Co.), Callophrys apama homoperplexa, Neom. ridingsii and Hemiargus isola (Albany Co.), Colias scudderi in new localities in Medicine Bow Nat'l. Forest. Howe: Call. affinis (Beartooth Pass, e. of Yellowstone Park); Mitoura spinetorum, Erynnis icelus, Polites draco, Sphinx vashti and Sm. cerisyi (nr. Moran Jct., Teton Co.): Perkins: Papilio, Boloria and Oeneis taken late at Teton and Bear Tooth Pass, Park Co. Of special interest was Oen. taygete sim. to edwardsii, of Colorado, (Bear Tooth Pass, 11 Aug.), as well as Bol. eunomia laddi. Pyle reported Miss Joann Clark, at high elev. in Wind River Mts., Sublette Co., took Col. meadii, Er. magdalena, E. callias, E. theano ethela, Icaricia shasta minnehaha and Parn. smintheus, 5 August. Papilios were scarce in Wyoming but migrations of V. cardui were reported.

UTAH: Tidwell: Incisalia fotis (Tooele Co., Apr. 27), and Euph. chalcedona hermosa (Kanab, Kane Co., May 16); Erebia callias and E. magdalena (Leidy Pk., Uintah Co., Aug. 30); Scott: Mitoura siva ssp., with lilac tint below instead of green (Oak Cr. Forest Camp, Millard Co.); Ellis: in new area, Henry Mts., (no roads previously), Asterocampa celtis, new Utah record (Bridge Canyon, Kane Co.). Scott: V. cardui migrating (Vernal).

COLORADO: Scott: Euptychia dorothea, Apodemia mormo, Lycaena arota, virginiensis, Philotes b. centralis, Papilio bairdi brucei and hollandi and 100 other sp. nr. Cotopaxi, Fremont Co., an area not much collected, July and Aug. Ellis: Spey. nokomis (nr. Paradox, Montrose Co., Aug.); Pyle: Eurema nicippe and E. mexicana (var. localities); Agr. vanillae (worn spec., Golden, July 23); Justice: Battus philenor (Mt. Elbert, Lake Co., June 23), Amblyscirtes phylacae (St. Vrain Canyon, Boulder Co., July 10); Pyle: Lim. archippus/weidemeyerii (weidechippus, Cross, 1937), (Sand Cr., Arapahoe Co., May 31), Phyciodes picta (Highline Canal, Arapahoe Co., early June); Scott: Pap. nitra (Green Mt., Boulder Co., May 30), Oen. a. oslari (Echo Canyon, Fremont Co., June 10). Hesp. juba (Jeff. Co.).

Early stages of Strymon l. aliparops on box elder (Fremont Co.). All Vanessas very common, even virginiensis, and cardui a pest. Papilio much commoner than in Wyoming.

NEW MEXICO: Holland and Toliver: Mt. Taylor, Valencia Co., elev. 8800-9200 (prob. new area): Col. eurytheme, Chlosyne acasta, V. cardui, Phyc. barnesi, Polyg. zephyrus, Glauc. lygdamus oro, Erynnis juvenalis, all May 23; Holland: Hesp. viridis, Amblyscirtes similis, Atrytonopsis pytho, Erynnis juvenalis plautus, Zestusa dorus, Sandia macfarlandi ("incredibly abundant"), Catocala arizonae (all Sandia Mts., Bernalillo Co., May, June, 6200-7500 ft. elev.) and following taken same locality Oct. 30 - Nov. 14: P. protodice vernalis, Eurema nicippe, Col. eurytheme, Hemiargus isola, Autographa ou. Toliver: Oarisma edwardsii, Cercyonis meadi, Chlosyne cyneas (Rio Arriba Co. July), Neom. ridingsii, Chlosyne fulvia, Poladryas arachne, Euptychia dorothea, Atrytonopsis pytho (Bluewater Lake, Valencia Co., June), Roshore: Proto. quinquemaculata, Chalcopasta howardi, Schinia tertia, Acronycta cretata, Nemoria caerulescens, S. gemmata and S. pallidata (White's City, Eddy Co., Sep.). Chlosyne cyneas larvae on Penstemon and Castilleja, Poladryas arachne larvae on Penstemon (Toliver).

ZONE IV: GREAT PLAINS. CANADA TO TEXAS IN THE PLAINS REGION.

Coordinator: H. A. Freeman. Contributors: H. A. Freeman, E. A. Froemel, R. Heitzman, K. Johnson, R. O. Kendall, B. Mather, M. Toliver.

Coverage for this report only fair with nothing from Canada.

GENERAL CONDITIONS: Reports variable, some collectors indicating below normal, others above normal collecting.

NEBRASKA: Johnson indicated that spring broods about a week later than in 1964 in Pine Ridge area; summer broods about the same as 1964. A large snowstorm in early September decreased numbers flying in fall.

New Records: Neoph. menapia, Erynnis martialis, Polites s. dacotah and P. o. origines; Strymon l. aliparops taken for first time in four yrs. Phyc. batesii and Speyerias (many) also taken, but no Paones hobomok. Froemel had little to report from Columbus area on both moths and butterflies, due almost entirely to bad weather.

KANSAS: Heitzman reported 1965 not very good, a dry spring, summer temperatures and rainfall above normal, and too much fall moisture resulting in only fair collecting. The following had poorest flights in years: Spey. idalia, Asterocampa clyton, Strymon t. mopsus, Lyc. thoe, Pompeius verna, and Ambl. nyssa. Colonies of Euph. phaeton small. Strymon ontario made slight comeback but S. liparops, S. m-album and S. caryaevorus absent. A bright spot was better than average spring showing of Anth. midea, Euchloe o. rosa, Incisalia henrici, Erynnis juvenalis, E. horatius and E. brizo. The virgin prairies in the Cottonwood Falls and Matfield Green (Chase Co.) region produced a few spp: Atrytone arogos, Polites origines, P. themistocles, Hesp. ottoe and Erynnis baptisiae. Howe reported to Heitzman that he found a battered Thysania zenobia in downtown Ottawa, Franklin Co. A slightly worn Pholus labruscae was collected at street light 23 Aug. by Keith McAdoo, and a large female Pholus fasciatus taken at street light 2 Sept. by Sam Fleming. B. Mather (Topeka, May) took Chorizagrotis auxiliaris, Agrotis ypsilon, L. renigera, O. crenulata, Cucullia asteroides, Galgula partita and Heterocampa bilineata.

OKLAHOMA: Toliver (Lawton, Tulsa and Grand Point Resort areas) indicated collecting not up to standard. The more interesting spp. taken were: Ambl. nysa, Euphyes v. metacomet, Atrytone logan, Staphylum hayhurstii, Erynnis clarus, Pap. troilus, Strymon o. autolytus, Asterocampa c. antonia, A. c. texana, Phyc. texana, P. gorgone, Mel. i. carlota, Euptychia rubricata, Cerc. p. texana, Scepsis fulvicollis, Catocala epione, C. ilia, C. junctura, C. d. desdemona, C. illecta, C. amestris and C. amica. Best place for butterflies was Wichita Mts. Wildlife Refuge and for Catocala, Grand Lake, where they occurred in large numbers. UV collecting was best in Lawton.

TEXAS: Toliver (nr. Silverton, Briscoe Co., June 6) found these interesting spp: Hesp. viridis, Phol. catullus, Pyrgus communis, Erynnis funeralis, Pap. polyxenes, Pieris protodice, Breph. exilis, Lept. marina, Hemi. isola, Mel. i. carlotta and Eupt. claudia. Mather, Arlington, Feb., took Paraphia unipuncta and P. vernata. Kendall reports Texas weather normal, --that is, erratic. Collecting about normal. Heitzman (Tyler State Park, 5 Apr.) took 4 Meg. y. reinthali; 7 Apr. A. midea, Euchloe o. rosa, Pap. troilus and Battus philenor fresh and common; Atlides halesus on wild plum flowers; Hesp. m. licinus common but wary, Mel. i. carlota just emerging; Amblysc. alternata, Er. martialis, E. gemma, P. cresphontes, Hem. thysbe and H. diffinis abundant on Verbena flowers. At Marble Falls, Burnet Co., 8 Apr., Euch. o. rosa, Anth. midea, Mitoura g. castalis common and C. 1. adjutrix Syst. pulverulenta, E. funeralis, Schinia bina (on clover) less common. At Lake Corpus Christi State Park, 9 Apr., scarcer items were Lim. a. watsoni, D. gillippus, Caria domitianus, Syst. pulverulenta, Celotes nessus, Pyrgus philetas, Helio. laviana, L. accius, Achlyodes thraso, Cop. aurantiaca and Polites vibex. At Brownsville scarcer items were C. perditialis, Z. cyna, Phyc. vesta, Ambl. nysa, Cop. minima, C. aurantiaca, Nastra julia, C. nessus, Helio. macaria, Ach. thraso, Syst. pulverulenta, Urbanus proce, U. teleus, Chioides albofasciatus, Ascia phileta, Phoebus agarithe, Strymon c. istapa, Everes c. texanus and P. texana. Ambl. samoset, Phyc. gorgona, Eupt. cymela and Strymon cecrops taken at New Boston, Bowie Co., 17 Apr. Freeman reports general collecting in Dallas area about normal, no unusual spp. being reported.

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

Coordinator: J. R. Heitzman. Contributors: R. Arnold, W. A. Borgman, R. Bracher, C. V. Covell, K. Dixon, R. Glassel, J. R. Heitzman, R. Holzman, H. F. Huber, R. L. Huber, R. R. Irwin, R. B. Jansson, B. Mather, J. I. Muggli, M. C. Nielsen, J. S. Nordin, L. J. Paulissen, N. Seaborg, J. S. Sorensen Jr., C. R. Taylor Jr., R. Taylor, E. G. Voss, V. Warczynski.

GENERAL CONDITIONS: A few contributors reported poor collecting results but the majority of reports noted normal or improved seasons. Severe drought conditions were alleviated in many areas. Danaus plexippus migrations went almost unnoticed this year.

MISSOURI: A dry spring and wet fall hampered collecting to some degree but most species flying at the expected time. Butterfly populations fairly normal. Most Strymon species continue scarce, S. cecrops abundant in early May in the Ozarks as was M. gryneus. C. henrici fairly common, A. midea still scarce. Speyeria idalia colonies are at a very low level. Moth collecting was good especially during August when fine collections of Sphingids and Noctuidae were made. In late August, Dixon, Heitzman and Taylor found X. tersa unusually common at localities along the Missouri River in Clay Co.. A new Jackson Co. record was H. cingulata taken 22 August (on a gas pump at a service station). P. achemon and pandorus were scarce, P. modesta numerous. In the Warsaw area P. sexta and quinquemaculata were abundant and S. chersis common (8 taken from one mercury vapor light pole which had about 25 Sphingids clustered on it). Several normally rare species were abundant for the first time; examples, Schinia tertia and cumatilis and Leucania rubripennis. Other choice captures included Schinia inclara, Basilodes pepita (new Benton, Clay and Jackson Co. records). Mamestra implicata (new Jackson Co. record), Catocala ulalume, Cerma cora, Luperina stipata and Hulstina inconspicua. Taylor and Heitzman took a series of Deidamia inscripta near Warsaw in May visiting Penstemon flowers. A short series of Symmerista canicosta were also taken here, an apparent range extension for this species. The 4-H club collections at the State Fair always turn up surprises. This year it was a Smerinthus cerisyi collected 14 June resting on side of building in Columbia. This is an apparent state record.

KENTUCKY: Covell recorded butterflies from 4 April to 7 November. Flight periods and species seem to be about normal for the area. Some of the better species collected included: April, Erynnis icelus, Mitoura gryneus and Anthocaris midea (Oldham Co.), Euptychia hermes, 6 June, Middlesex Co., Libytheana bachmanii and Lephelisca borealis, 24 June in Oldham Co., Strymon edwardsii, 28 June, Caperton Swamp, Louisville, Atlides halesus taken 19 Sept., Caperton Swamp. Hemileuca maia collected 19 October near Louisville. Graphium marcellus numerous at several locales. UV light collecting was reported good in Trigg and Bullitt Counties.

IOWA: No reports.

INDIANA: Bracher reports the worst season in memory for lepidoptera. Most species were practically nonexistent. No D. plexippus migration observed this year. Paulissen collected 9-17 August in the Vincennes area and considered the collecting good, 42 spp. of butterflies taken. Mather near Indianapolis in June took Halosidota tessellaris and Pseudaletia unipuncta, at West Lafayette T. polyphemus and Nadata gibbosa were collected.

ILLINOIS: Irwin reports collecting about normal. Unusually heavy rainfall during August and September resulted in poor collecting. One interesting observation was apparent state-wide increase in numbers and distribution of Melitaea i. carlota. Several reports from over the state mention this population increase. Colonies of Thymelicus lineola discovered in Cook Co. in June, also collected by Seaborg. Euphyea bimaculata found in Iroquois Co. in June. Speyeria idalia taken in some numbers near Crete in Will Co., July and August and several observations were made in La Salle Co. where the species has been exceedingly rare.

Arnold found Lycaena helloides, L. p. americana common in May, Strymon edwardsii, S. titus and S. liparops plentiful in June. Speyeria cybele, idalia and aphrodite uncommon. By September rains had reduced the numbers of most spp. but D. plexippus was abundant. Mather at Pheasant Run in July collected Paonias myops, Schizura ipomoeae, Hemerocampa leucostigma and Prochoerodes transversata.

OHIO: No reports.

MINNESOTA: Collectors have joined together in a fine example of cooperation and turned in the most comprehensive coverage of any state in the zone. The entire report (9 pages) is too long for inclusion here; 103 species of butterflies are recorded with six new state records and 174 new county records.

STATE RECORDS - Hesperia ottoe, 3 June, Houston Co. (R. L. Huber). Graphium marcellus, 14 July, Springfield, Brown Co. (Ken Rogotzke) the only previous records were sight records. Phyciodes texana, 1 August, Bellingham, LacQuiParle Co. (Betty Larson), Boloria freija, 22 May, Linden Grove, St. Louis Co. (R. L. Huber), Oeneis uhleri, 12 June, Felton, Clay Co. (R. L. Huber), Oeneis jutta, 11 June, Selana State Forest, Aitkin Co. (J. Nordin) this is the first detailed Minn. record. Some choice captures are as follows: Lerodea eufala, 9 Sept., Scott Co. (O. Taylor), Hesperia pawnee X leonardus blend populations, numerous records from 18 Aug. to 11 Sept. from Sherburne, Scott, Dakota, Chicago and Wabasha counties. H. sassacus manitoboides, 27 June, Carlton Co. (R. K. Huber), 5 July, St. Louis Co. (Sorensen), Oarisma powesheik, 10 July, Pipestone Co. (R. L. Huber), Euchloe ausonides, 12 June, St. Louis Co., 13 June, Cook Co. (Nordin), the 3rd and 4th state records, Lycaena epixanthe, 2 August, Aitkin Co. (Nordin), 2nd state record, Lycaena dorcas, 12 July, Aitkin Co. (Nordin) 3rd state record, Boloria eunomia, 14 and 18 June (Nordin), in Aitkin Co. the 2nd and 3rd state records, Erebia discolidalis, 22 May, St. Louis Co. (R. L. Huber) 3rd state record. Nordin reporting on overall conditions noted that above-normal moisture alleviated a serious drought condition especially in S.E. Minn. On the average boreal and acid bog species were common as were prairie grassland species. Speyeria, Polygonia, Strymon and most Papilio species were less numerous. Mitoura gryneus was absent after being common during 1964. Hesperia dacotae was fairly common 17 July in Clay Co. (prairie locale). A female Hesperia uncas was taken in Sherburne Co., the 2nd state record. Everes comyntas and E. amyntula were again collected together in the same locale

in St. Louis Co., 12 June, confirming the fact that the two coexist in the same locality, and Incisalia polios and Bol. freija were taken (12 June, Cooke Co.) for the second time in the state. Phyciodes batesii was collected 18 June, Aitkin Co. with P. tharos but preferring drier habitats.

MICHIGAN: The collecting season started normally with drought persisting during the summer months. Nielsen collecting from Lenawee Co. to the Upper Peninsula records 99 species of butterflies and moth collecting comparable with the 1964 season.

STATE RECORDS: Boloria freija, 29 May, Chippewa Co. (John Newman), Papaipema appassionata, Cheboygan Co. (Nielsen) ex larvae from Pitcher plants. Catocala angusi, 4 Sept., Lenawee Co. (Nielsen), Parasemia scudderi, Gogebic Co. in June (Warczynski).

COUNTY RECORDS: (all Nielsen) Hesperia sassacus, 10 June, southern St. Joseph Co., Thymelicus lineola, 27 June, Cheboygan Co., Erynnis baptisiae, Monroe Co. (reared from wild indigo), Euptychia mitchellii, 30 June, Branch Co., 11 July, Lenawee Co., Acronicta funeralis, 21 May, Otsego Co. (the 2nd Michigan record). Other choice collections included Pieris virginiensis, numerous 11 May in Emmet Co., Incisalia henrici (1 only) collected in Montcalm Co., 10 May, Incisalia eryphon (2) 29 May, Chippewa Co., Boloria eunomia dawsoni, 15-16 June, Mackinac Co., Oeneis jutta, fresh males were taken 29-31 May in Chippewa Co., Adelocephala bisecta, 17 July, Lenawee Co., Anarta cordigera was numerous 29-31 May in Chippewa Co., Fishea enthea (1 at UV light) 10 Oct., Otsego Co., Catocala coelebs (1 at UV light) 23 July, Otsego Co., C. minuta, 4 July, Lenawee Co., Zale calycanthata, 21 May, Otsego Co.

LIFE HISTORY OBSERVATIONS: Erynnis lucilius reared from Aquilegia canadensis (Montcalm Co.). Battus philenor on Aristolochia serpentaria (Lenawee Co.). Incisalia nippon clarki, a female was observed ovipositing on a lateral shoot of Pinus strobus, 16 May in Montcalm Co. Basilodes pepita, numerous larvae found feeding on flower seed heads of Verbesina alternifolia, 4-6 Sept. in Lenawee Co. Voss found fair collecting on Isle Royale in mid June in spite of below-freezing temperatures at night. Carterocephalus palaemon and Amblyscirtes vialis were common 15 June. Plebejus saepiolus was very common 17 June. Euchloe ausonides associated with Arabis was collected the 17th. The diurnal moth species Rheumaptera hastata, Alypia langtonii and Trichodezia albovittata were conspicuous in wooded areas. In Emmet County the Erota laeta locale was visited again on the same date as the original captures but without success. A mass emergence of budworm moths, apparently Choristo neura pinus was noted 21-22 July resulting in great clouds of the insects at lights in the southern two-thirds of Cheboygan Co., not observed north at the Straits of Mackinac. The very local Lycomorpha pholus was collected the first week in August at the Douglas Lake Biological Station, Cheboygan Co. Alucita hexadactyla was taken at the Biological Station August 13 by R. Schwab. Holzman used BL, BLB and MV lights May 8 to Sept. 5. Clear, cold, windy nights and a dry summer hampered collecting. One odd occurrence was the capture (Crawford Co., May 19) of 24 fresh Phragmatobia assimilans at light in two hours time with the temperature at 35 degrees. Very few other moths present. Euptychia mitchellii and Lephelisca mutiolum noticeably scarce this season.

WISCONSIN: No reports.

ONTARIO: Collecting in the Hymers' area in June, Warczynski took several Fuchloe ausonides. A series of Erebia disa mancinus was collected in Spruce forest habitat, same date and locale. Nielsen obtained many moths at UV light near Rossport in the Thunder Bay district 29-31 July. Some of the choice species were Parasemia parthenos, Mamestra nimbose, Graphiphora oblata, Plusia alais, P. ampla, P. flagellum, P. mappa, P. octoscripta and P. rectangula. A long series of Thymelicus lineola was taken 31 July at Fort Williams.

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

Coordinator: Bryant Mather. Contributors: R. Heitzman, G. Straley, J. Plomley, J. Concello, Jr., L. Paulissen, B. Mather, M. and E. Roshore.

ARKANSAS: Heitzman, (Withrow Spgs State Park, 3d wk. of Apr.) took Hesp. metea, Mitoura g. gryneus, Pap. marcellus, Eryn. brizo, E. juvenalis and E. horatius; scarcer were Inc. henrici, Anth. midea, E. o. rosa and Eryn. baptisiae (1 fresh male). Good UV light collecting in early May, including A. io., Glena cribrataria and Schinia bina. At Eureka Spgs., Carroll Co., 1st and 4th wks. of May, took Ambl. a. linda, A. c. belli, Poanes hobomok (1 female, form pocahontas), P. zabulon, Wallengrenia otho, Strymon falacer, S. cecrops and S. ontario. Scarcer were Euph. phaeton, Atryt. hianna, Ambl. samoset, Thorybes confusus, and Er. icelus. Strymon spp. congregated on flowers of Indian hemp; Scores of Heliomata cycladata and smaller numbers of Metarrhantis mollicularia flushed in woods. Amphion nesus taken on blackberry flowers in late afternoon. Autochton cellus (5 spec.) taken nr. Beaver Dam, first coll. of this skipper in this area. Ova obtained from A. a. linda and larvae reared on spangle grass (Uniola latifolia). A. samoset also observed ovip. on this grass, the first instar larvae hibernating. Nr. Mena, Polk Co., Apr. 17, coll. A. midea, Phoebis sennae, Hesp. metea, Ambl. samoset, A. vialis and Th. pylades. Paulissen reported year generally good for butterflies and Catocalas in NW Ark., but only fair to poor for Sphingidae, Arctiidae and Saturniidae. New state butterfly records are Euch. olympia (Scott Co., 20 Apr.) and Poanes yehl (Washington Co., late Aug. and early Sept.). Hesp. metea and Panoquina ocola both new records for Washington Co. and a spec. or two of rarely encountered Problema byssus, Hesp. leonardus and Pantheides m-album. Also 1 spec. Euph. phaeton, only one since 1963. Two outstanding catches were a lesser-degree "calverleyi"-type of aberrant Pap. asterius, and a white male Colias eurytheme. Unusual Washington Co. moth records include 3 Erebus odora, a fresh Pholus fasciatus and an aberrant Catocala cara

whose DFWs differ from each other in coloration. The outstanding moth catch was a perfect fresh spec. of Erinnys alope (female) resting on a store building the day after Thanksgiving. Warm weather kept Col. eurytheme flying until four days before Christmas. An Atlides halesus larva which pupated Sep. 24 hatched indoors Dec. 13, a male. Straley took 28 spp. of butterflies on Petit Jean Mt., Conway Co., Aug. 8-11, incl. Atrytone delaware, Col. cesonia, Nath. iole, Lept. marina, Euptychia gemma and E. h. sosybius. Anaea andria larvae common on plants of Croton monanthogynus.

LOUISIANA: P. vernata, Shreveport, Feb., Mather.

TENNESSEE: P. ornithogalli and S. ipomoeae, Memphis, July, Mather.

MISSISSIPPI: Probable new records: Argyrostromis herbicola, Siavana repanda and Adoneta spinuloides, Biloxi and Gulfport, 22-23 Apr. (Mathers and Rostores). Isoparce cupressi (Clinton, 16 Sep.), Erinnys ello (Clinton, 30 Aug.), Agriopodes fallax (Clinton, 20 Jun.), Catocala insolabilis (Jackson, 29 May), Goniocalia furciferata (Clinton, 15 Jun. Cosymbia benjamini (Jackson, 21 Jun.).

ALABAMA: P. insularia, Birmingham, June, Mather.

FLORIDA: Concello (Putnam Co.), June 21 to July 18, took 915 spec., including 331 butterflies (48 spp.) and 584 moths (over 60 spp.). Notable captures: (Butterflies): Atrytone l. logan, Pyrgus cileus, Strymon m-album, Pieris p. protodice, Nath. iole. Moths: Rhodophora gaurae, Anisota virginensis, A. rubicunda. Common: Darapsa pholus, Apantesis nais and Tolyte velleda. Male and female Strymon cecrops came to black light June 22, 9:30 p.m., Plumley (Dade, Broward and Munroe Cos.) stated that for 3d consec. yr. all orders of insects greatly reduced in numbers. Many spp. of Lepidoptera did not appear, particularly in the Lycaenidae, Geometridae and Sphingidae. Prolonged dry spells in summer had effect of dwarfing many spp. Ag. d. nigrior half normal size in Aug. Hurricane Betsy in Sep. again showed that heavy storms have little effect on insect populations as far as I have observed. For example, Appias d. neumoegenii and Leptotes c. theonus. One notable capture was good spec. of Eurema palmeri (Poey), in Oct. No migrations observed.

GEORGIA, SOUTH CAROLINA, NORTH CAROLINA: No reports.

VIRGINIA: Straley, SW Virginia (prim. in Giles and Montgomery Cos.), took foll. choice spp. and made these unusual records: Panoquina ocola, Lerema accius, Battus philenor (dwarf male), Col. philodice (melanic male, solid dark brown upper surf.), Incisalia h. henrici and Strymon liparops. One C. philodice and many small moths seen in Dec.

DELAWARE AND MARYLAND: Bryant took A. genutia at Woodbine and Spey. idalia nr. Stevenson. Possible new state record from nr. Baltimore is Euparthenos nubilis unilineata; also monarch aberrations. Others may be C. cecrops, nr. Georgetown, P. palamedes, Hillsboro, and Col. cesonia (Shapiro).

ZONE VII: NORTHEAST: PENNSYLVANIA to MAINE and QUEBEC. Coordinator, L. P. Grey. Contributors: A. E. Brower, P. Grey, H. Hensel, R. Holland, J. Holmes, B. Mather, R. May, C. Oliver, A. Shapiro.

CANADA: Hensel reported fabulous collecting for diurnals still prevails in New Brunswick-Quebec-Maine corner area near St. John River valley. Green River wilderness area north of Edmunston looks especially promising but will require several years to explore. It is a tension zone in Polygonia, with gracilis and faunus populations beautifully indicative of "unspoiled" vs. "disturbed" forestlands. Holland found collecting poor in Mt. Albert table-land in mid-July: P. brevicauda (not taken), Oen. taygete spp., O. chryxus spp., centaurae and comma spp., the latter darker than other Northeast series, possibly approaching borealis (not yet examined by Hesperiid specialist as far as we know). Holland also explored Cascapedia region, but did not find titania. Probably this colony has been exterminated by recent road building and forest cutting. Tullia was taken 16 July in Bathurst marshes but the endemic copper not seen, --too early; P. arg. empetri near Mary Ann Falls, Cape Breton Highlands, 21 July. In Newfoundland, collecting "good" only at Port Aux Basques, Table Mountain and Hawkes Bay (late July, weather reasonably good). Highlights were A. glandon aquilo and P. arg. aster; and fair series taken of Newfoundland specialties; C. tullia mcisaaci, Spey. a. canadensis, Bol. selene terrae-novae and C. pelidne. P. brevicauda taken on Table Mountain. The dark comma (like the Mt. Albert form) taken near St. Anthony. Series of Spey. atlantis from Hawkes Bay region indicate the northern variation running smaller and redder than typical "canadensis". A record of P. rapae from Hawkes Bay also seems noteworthy.

MAINE: Brower recorded 1855 butterflies of 45 species in 183 hours of observation, Apr. 30 to Oct. 14. Five sp. represented by one specimen each, 15 sp. represented by nine or less individuals. This summary documents incredible southern Maine "butterfly disaster" quite fully. Scattered records of G. lygdamus turning up regularly in central Maine, suggesting southerly extension of range analogous to spectacular wave of P. saepiolus of the 30's. The record of L. bachmanni taken at Lincoln by D. Round should give migration theorists second thoughts on how far butterflies can wander.

NEW HAMPSHIRE: Holland took Oen. semidea on Mt. Washington, 9 July. Some other collecting but no definite record.

VERMONT: No records.

MASSACHUSETTS: Holland took surprising number of sp., including A. samoset, nr. Framingham, Middlesex Co., 12 June; also observed A. octomaculata "swarming" on Japanese ivy at Agassiz Museum, Cambridge. Holmes reported Theclinae numerous, Rockport and Cape Ann, monarchs scarce, no migrations; also took Eup. claudia (2 males) nr. Gloucester, and large colony of E. comyntas there, early August. Oliver reported S. liparops and S. acadica "very common" in dry fields on milkweed at Acton, Middlesex Co.; female of C. henrici, No. Acton, 6 May, and few Achalarus lyciades, Belmont, 2 July. Reared Lycaeides m. samuelis on Medicago (possibly a new foodplant record) from ova taken at Karner, N. Y.

RHODE ISLAND AND CONNECTICUT: No formal listings; reports on continuing decline in population attributed to successive dry years.

NEW YORK: Oliver found Lyc. m. samuelis "swarming" on barrens nr. Karner, with sev. other spp. No other definite reports.

NEW JERSEY: May report includes L. thoe and P. protodice, Hackensack Meadows, P. communis, Pittston, Hunterdon Co Brephos infans, Hatfield Swamp, 21 Apr., and Alotria elonympha (locality not given). Shapiro observed small migration of V. cardui, Island Beach State Park, 22 Oct.

PENNSYLVANIA: New state records (Shapiro) include Heliothis phloxiphagus, St. David's, Delaware Co., 1 June; Ptichodis bistrigata, Schwenksville, Montgomery Co., 15 May; Cissusa spadix, Wayne, Delaware Co., 24 Apr. (second state record). Swarm of Poanes viator, Tinicum, Phila. area and in Delaware Co., 10-20 Jul. Eup. m-album, Fort Hill, Montgomery Co., 22 Jul. and L. thoe, Tinicum Wildlife Preserve. Population "explosion" of L. bachmannii may explain stray which showed up in Maine.

ZONE VIII: THE FAR NORTH. Coordinator: Lee D. Miller. Contributor: Walter Phillips.

ALASKA: Phillips reporting from Palmer: Pap. m. aliaska, Euchloe c. creusa and Bol. freija, Palmer, elev. 600 ft. Bol. p. polaris, B. c. butleri, Lazy Mt., 2500-3000 ft. (nr. Palmer). Pleb. s. amica, Er. t. alaskensis, Index Lake area, mile 95, Glenn Highway. Pap. m. aliaska, P. napi pseudobryoniae, Euch. c. creusa, Bol. p. polaris, B. f. nabokovi, Oen. b. mackinleyensis, O. m. melissa, O. p. yukonensis, Er. r. kuskoquina, E. d. streckeri, E. m. mackinleyensis, E. f. avinoffi, E. d. macdunnoughi, Slana area, 2400 to 5200 ft., about 62°52' N 144°02' W.

ZONE IX: THE NORTHERN NEOTROPICS. Coordinator: E. C. Welling M. Contributors: Dr. Tarsicio Escalante P., Dr. Alton L. Alderman, B. Mather, G. Small, E. C. Welling M.

MEXICO: DISTRITO FEDERAL: Dr. Escalante reported migrations reduced during 1965, beginning with appearance of Historis odius, 29 Jul. Saw first Phoebis sennae migrating 30 July. Victorina steneles seen crossing Mexico City late Sep. and early Oct. MICHOACAN: Escalante reported his son captured extraordinary spec. of a Castnia, San Jose Purua, Apr. Mather reported collecting 755 specimens 25 Nov. to 3 Dec. including following skippers: Achalarus toxeus, Perichares p. dolores, Cel. fritzgaertneri, Urbanus dorantes, Cyamaenes trebius, Lerema accius, Poanes zabulon, Heliopetes macaira, Pyrgus oileus, Staphylus tierra, Copaeodes minima, Ancyloxypha arene, Pompeius pompeius and Polites vibex praeceps. QUINTANA ROO: Collecting at X-can very limited, tho some spp. appeared to be having good year. Forest spp. having moderately heavy flights, such as Caligo, and Nessaea. Newer intrusions, due to forest clearing, include Col. cesonia and Ascia amaryllis, the former exceedingly abundant where 10 years ago it was quite rare. Battus laodamas was slightly commoner than usual. The first Adelpha serpia was taken since 1959. CHIAPAS: Welling noticed swarms of Anaea and Hypna spp. and many others in abundance in thorn forest areas between Rio San Gregorio and Rio Yalishac south of La Trinitaria in August. Cow and horse dung seemed especially attractive to many spp. of these two genera. Many Pereuta charops seen gliding across road nr. Comitan, early Feb., 1966.

BRITISH HONDURAS: STANN CREEK DIST: Welling made first extensive dry-season collections here, early March to early May. Thousands of Actinota guatemalena flying early morning and late afternoon in early March; as many as 500 could be collected in a day. Several Graphium phaon seen guarding certain waterways; fine choice Erycinids taken in forests for first time. Trap netting brought magnificent results in hurricane-battered equatorial forests, including Catonephele nyctimus, C. numilia, Nessaea aglaura, Historis odius, Anaea euryppyle, A. forreri, A. morvus, A. electra, A. artacaena, A. oenomais, A. proserpina (a new record for the colony and Yucatan Peninsula), Morpho theseus, M. peleides, Caligo uranus, C. memnon, C. oileus, Opsiphanes quirinus, O. cassina, O. tamarindi, Prepona demophon, P. antimache, P. amphimachus, P. laertes, P. undet. sp., Myscelia cyaniris, Temenis laothoe, Didonis aganisa, Hamadryas feronia, H. iphthime, H. februa, H. laodamia, H. amphinome, Smyrna blomfieldia, Gynaecia dirce, Catagramma titania, C. undet. sp., Zaretis isidora, Victorina steneles, Protogonius hippona, Taygetis andromeda, T. virgilia, T. nympha, and T. mermeria. Using 20 traps, some days a trap would catch as many as 30 specimens. The same locality from late Aug. to early Oct. yielded quite a different catch. Trap nets still brought in nice things but in very small quantity. The 20 traps at this time may have caught an average daily total of 40-50 specimens. Heliconius doris was commoner than usual, flying along open streams. Many dry-season Erycinidae were gone, but others replaced them. Hypoleria cassotis was finally found in numbers again, but collecting during these months was much less productive than the previous year. CAYO DIST: Welling and a friend, nr. San Luis, Guacamayo and Millonario, in Caribbean pine

and grassland areas in Sept., took some fine hairstreaks and skippers; a fine male Morpho polyphemus taken and several others seen, along with Graphium marchandi, a fine series of Euptychia and several Opsiphanus along a stream in the evening.

GUATEMALA: IZABAL: Welling, at Tenedores, mid-June to mid-July, had poor results; the equatorial forests almost empty due to extreme drought; a few Parides childrenae, Heliconius sapho and cydno, Itaballia pisonis, Callithomia hezia taken and Morpho theseus observed. In Oct. very few things out in spite of increased rains. Forest areas swarming with Dircenna euchytra and Mechanitis lycidice; and local people told of swarms of migrating Athena chiron in Aug.

CHIMALTENANGO: Welling collected at Quisache, Mpio. Acatenango (+ 1750 m.) for four months with less than fair results. Best collecting areas are in a high zone that is almost continuously cloudy. Lyc. pyrrias, Anaea nobilis, Parides photinus, Pap. thymbraeus, P. garamas, P. multicaudatus, Heliconius hortense and others greatly reduced in numbers compared with spp. like Eurema mexicana, E. salome, Lept. aripa, Danaus plexippus, and Anartia fatima. At times there would be swarms of Tisiphone maculata, Leptotes cassius, L. marinus, Celast. argiolus and some Hemiargus. Trap netting a failure here. Many spp. found on this Pacific slope usually commoner in humid temperate localities throughout northern Guatemala and southern Mexico. More interesting results obtained at Panajabal, Mpio. San Pedro Yepocapa (+1250 m.), producing some curious Anaea, Morpho, Phyciodes, Eueides, etc. EL QUICHE: Welling, Nov., saw Pap. multicaudatus at Nahuala and Santo Tomas Chichicastenango in Dec. Latter area produced many Hylesia in in Feb., 1966, and former in Nov. At Xutixtiox, Jetzajel, in No. El Quiche, hoards of Hemiargus ceraunus and smaller nos. of Celastrina argiolus, Leptotes cassius, L. marinus, and a brilliant blue Lasaea along the Rio Chixoy. Unusual Satyrids and Phyciodes also captured. Conditions here very dry in Dec. At Xixikin, Mpio San Miguel Uspantan, Pap. pilumnus, Col. cesonia, Adelpha bredowi, Heliconius charitonius and others taken.

ALTA VERAPAS: Few butterflies near Coban (+1,400 m.), except for swarms of Anartia fatima. At Baleu, Mpio San Cristobal Verapaz (+ 1250 m.) Graphium callisto, Pap. pilumnus, Colias sp., Nymphalis antiopa, Eresia philyra, Victorina steneles, Anartia fatima, Pteronymia cotytto, Dismorphia fortunata and others exemplified extraordinary locality where spp. from hot, temperate and cold lands can be found side by side. Weather conditions terrible and future collecting planned for this remarkable locality in 1966.

COSTA RICA: Alderman collected at El Rincon, Puntarena, on the Osa Peninsula in late Aug. Collecting poor, Helic. pachinus and H. anderida common; Callicore marchalii taken. Extreme drought until one evening when it rained 5.85 in. in 3 hrs. and swarms of moths came to lights keeping five cyanide jars busy all evening. Many Sphingids, Cossids, Saturnida, Notodontids, etc., including Rothschildia jorulla and R. hesperus. At other localities, Alderman took Ithomia plaginota, Callithomia hezia, Mechanitis lycidice, Dismenitis zygala, Aprotopos melantho and Parides childrenae.

PANAMA: Small reports collecting in Chiriqui province in late June and July. Took some nice material but was led to believe more could have been taken in good years. Overall population level of butterflies lowest he has ever seen it. Same goes for southern Costa Rica--evidently a greatly extended drought throughout Central America in 1965.

Memoirs of the Lepidopterists' Society, Number 1 (Feb. 1964)
A SYNONYMIC LIST OF THE NEARCTIC RHOPALOCERA by
Cyril F. dos Passos

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