



NEWS

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ANNUAL FIELD SEASON SUMMARY FOR 1970

This year's field summary is somewhat different in its organization from past summaries. An attempt is made to make the summary of more general interest to our members and to eliminate needless repetitions of previously published information. These changes are necessary because of (1) sky-rocketing publication costs, (2) the advancement of knowledge of Nearctic Lepidoptera, and (3) the unsatisfactory readability of previous summaries.

It is hoped that contributors to future summaries will seek to enhance the value of their contributions. The editors have heard that some members felt the new guidelines are too stringent. We believe that every member of the Society can potentially contribute valuable information. We merely expect members to check with earlier summaries to avoid needless repetition.

Meaningful population estimates can be made by the method described in our *Journal* by Ehrlich (1960, vol. 14, pp.227-229), involving only the cost of a few felt-tipped pens. More sophisticated methods are described by T. R. E. Southwood (1960, *Ecological Methods*), while practical application of these methods is explained by W. R. Hanson (1967, *J. Res. Lepid.*, vol. 6, p. 203).

In order to evaluate your records for distributional status, seek out state and local lists, or examine institutional collections. A compendium of state and local lists may be made available if enough interest is shown.

A number of members have extensive experience in the investigations of life histories of Lepidoptera, and most of them will be happy to share their hard-earned knowledge.

Brief sections have been appended to the end of this Summary dealing with "Collecting spots," "Conservation," "Faunal surveys," and "Rearing programs."

The 1970 Summary is highlighted by 64 new state and provincial records, as well as a large number of significant range extensions.

The range of *Thymelicus lineola* was reported to have spread into many new areas, while notable increases in its numbers have been reported in areas where it has been recorded previously. Perceptible "invasions" of species of usually more southern inclinations were reported in many areas of the continent: *Agraulis vanillae*, *Libythea bachmanni* (Ariz., Calif., Mich.), *Anartia jatrophae* (Miss.), *Phoebis sennae*, and *Brephidium exilis* (Kan., La.). *Vanessa* spp., especially *V. virginiensis*, were present in extraordinary numbers in the Northeast. Movements of *Danaus plexippus* were reported by ten contributors. Fifty-one rearing records were reported.

Paul A. Opler, Associate Editor

ZONE 1: ARIZONA, CALIFORNIA, NEVADA. Regional editor: Robert L. Langston. Contributors: C. Callaghan (C), C. J. and B. V. Durden (D), S. L. Ellis (E), J. F. Emmel (Em), C. D. Ferris (F), R. S. Funk (Fu), R. W. Garrison (G), P. Herlan (H), R. L. Langston (L), A. F. Ludtke (Lu), S. O. Mattoon (M), J. R. Mori (Mo), W. L. Mühlbach (Mu), P. A. Opler (O), R. C. Prieststaff (P), J. A. Scott (S), C. A. Sekerman (Se), O. Shields (Sh), M. J. Smith (Sm), W. L. Swisher (Sw), and M. Toliver (T).

ARIZONA: Most reports were from non-resident collectors.

Migratory species: Swarms of Libytheana bachmanii migrating north were abundant on Salix in Madera Canyon, 28 August and Box Canyon on 29 August, both in Santa Rita Mountains, Pima County (E, Sh, T). Vanessa cardui, Chiricahua Mountains and east to New Mexico line, 23 June to 9 July (D); swarming on desert near Madera Canyon, late August (F). Nymphalis californica, Rose Peak, 8700' and 2 miles south Cienega Campground, Greenlee Co., 28 June (G).

Life Histories: Hyalophora gloveri larvae on Rhus trilobata, Merriam Crater, Coconino Co., June 1969, emgd. July 1970 (Fu). Agathymus neumogeni pupae in Agave palmeri, eastern base of Graham Mts., Graham Co., 27 August (E, Sh, T). Hypaurotis crysalus on leaves of Quercus gambellii (adults?, larvae?, or oviposition? ed.), Mt. Graham, 31 July (G).

Jerry Powell continued his studies concerning the life history and biology of Prodoxids in southern Arizona during June and August.

NEVADA: Migratory Species. Danaus plexippus, larvae on Asclepias, 7 miles west Fort Churchill, Lyon Co., 21 June (L). Nymphalis californica, King Canyon, west of Carson City, moderate, 22 June (H, L); Slide Mtn., east slope and summit ski area, Washoe Co., 23 June, numerous over-wintered adults, some moving to peaks (L).

Distribution records: Philotes enoptes ancilla, Indian Creek, Santa Rosa Mts., Humboldt Co. (WEST), 5 July (C). Speyeria nokomis nokomis, Ruby Valley School, Elko Co. (WEST), 12 Aug., (Sw), population first noted in 1969 (M).

Life histories: Anthocharis cethura larvae on Streptanthella longirostris, 9 miles west of Fallon, Churchill Co., 23 May (Em, Sh). Philotes speciosa oviposition on Oxytheca perfoliata, Lone Mtn., near Lovelock, Pershing Co. (NORTH) (Em, Sh).

CALIFORNIA. Migratory species: Libytheana bachmanii, 2 miles south of Pearblossom, Los Angeles Co., 18 Oct., after apparent immigration (Sm), also at Victorville, San Bernardino Co., 18 Oct. (Sm). Several adults, Coyote Cyn., southeast of Anza, Riverside Co., 17 Nov. (E. F. Emmel). Nymphalis californica noted at several localities in northern portion of state (L), movements not noted.

Distribution records: Heliopetes domicella, Parker Dam, San Bernardino Co. (STATE and WEST), 30 Sept., (S). Battus philenor, Deer Creek, 7 miles north of Groveland, Tuolumne Co. (SOUTH for Sierra Nevada), 28 Mar. (Mo). Pieris napi venosa, 2 miles north Lopez Lake, San Luis Obispo Co. (SOUTH), 24 Feb. (Sw). Satyrium dryope near Salix, San Antonio Creek, near Petaluma, Sonoma Co. (NORTH), 29 May (Em, O, St). Boloria epithore epithore, Russian Gulch State Park, 28 Mar. (EARLY) (L), and near Caspar, 30 May (Em, O, St), both localities in Mendocino Co. (NORTH for coast.)

Population changes: Philotes sonorensis, Santa Ynez Mts., Santa Barbara Co., reappeared early March after disastrous 1964 fire (P). Agraulis vanillae, Bakersfield area, Kern Co., 5-10 observed daily mid-July to late Sept. (Mu), apparent increase as only about 5 seen per season, 1964 through 1969.

Life histories: Hyalophora gloveri, first instar larvae on Salix, 2 miles southeast Lee Vining, Mono Co., 18 July (Sm). Platyprepia virginalis, mature larvae on Lupinus arboreus, Point Reyes dunes, Marin Co., 25 Apr., adults emgd. mid-June (L), Parnassius clodius sol, mature larvae on Dicentra formosa, Steely Fork Consumnes River, El Dorado Co., 17 May (Mo), larva on Dicentra formosa, Shenanigan Flat, North fork Yuba River, Sierra Co., May (O). Papilio indra, Pope Creek near Walter Springs, 1000', Napa Co., emgd. 24 March (L), larvae on Lomatium marginatum, 19 April, same locality (Em, Sh). Habrodais grunus, larvae on Lithocarpus densiflorus, Dimmick State Park, Navarro River, Mendocino Co., 30 May (Em, O, St). Incisalia eryphon, ovum on Pinus muricata, near Caspar, Mendocino Co., 30 May and on Quercus chrysolepis, near Lake Pillsbury, Mendocino Co., 1 June (Em, O, St). Satyrium behrii, larvae on Purshia glandulosa, 2 miles south Phelan, San Bernardino Co., 18 April (Sm). Mitoura spinetorum, larvae all instars on Arceuthobium campylopodum parasitizing Pinus lambertiana, 7 miles northeast Chico, Butte Co., 20 March, emgd. 16 May to 18 June (M). Mitoura loki, ova on Juniperus californica, Gavilan Hills, Riverside Co., 21 March, emdg. 28 May (Sm). Incisalia fotis windi, larvae on Sedum spathulifolium, eggs on flowers, blooms tunnelled, foliage rarely eaten, Shasta Lake near McCloud Bridge, Shasta Co. (NORTH), 26 April (M). Thessalia leanira, larvae on Castilleja affinis, Skelton Creek, near Jerseydale, Mariposa Co., 29 March (Em, Sh); larvae of Thessalia leanira cerrita on Castilleja sp., Ord Mts, San Bernardino Co., 11 March, adults Apr. (Sm).

ZONE 2: BRITISH COLUMBIA, WASHINGTON, OREGON, IDAHO, MONTANA. Regional editor: E. J. Newcomer. Contributors: C. Ferris (F), E. Gage (G), J. Justice (J), D. McCorkle (M), J. Pelham (P), M. Van Buskirk (V), and R. Woodley (W).

WASHINGTON: Distribution records: Lycaena cupreus snowi, Slate Peak, Okanogan Co., 24 April (M) and D. Lindley, 3 August, N. Woodley (STATE). Mitoura nelsoni, juniper forest in Ryegrass Coulee, Franklin Co., 2 May (first eastern Washington record).

Life histories: Callophrys sheridani newcomeri, ova and larvae on Eriogonum compositum, Whiskey Dick Canyon, Kittitas Co., April and May (J, P, V). Celastrina argiolus, Incisalia iroides, and Satyrium saepium, larvae of all three spp. on Ceanothus integerrimus, near Plain, Chelan Co., 24 June (J, P, V). Paonias myops, larvae on Prunus virginiana melanocarpus, Cub Creek, Road, Okanogan Co., July 25 (V) Apantesis intermedia, larvae on various composites, Cottonwood Canyon, Yakima Co., 21 March (P, V). Apantesis nevadensis, larvae on Artemisia tridentata, Whiskey Dick Canyon, Kittitas Co., April and May (P, V).

ZONE 3: ALBERTA, WYOMING, UTAH, COLORADO, NEW MEXICO. Regional Editor: C. D. Ferris, Contributors: R. Bailowitz (Ba), G. Balogh (B), P. J. Conway (C), B. V. Durden (D), J. D. Eff (E), C. D. Ferris (F), M. Fisher (Fi), R. J. Jae (J), J. A. Legge (L), J. S. Nordin (N), D. E. Pforr (P), R. C. Rosche (R), J. T. Sorensen (S), R. E. Stanford (St), and M. Toliver (T).

ALBERTA: Distribution records: Ctenucha virginica, George Lake Research Station, 50 miles northwest Edmonton, light trap, (NORTH and WEST) (P).

COLORADO: Distribution records: Euristrymon ontario violae, south of Branson, Las Animas Co. 27 June (STATE) (Fi, St). Euptychia cymela cymela, Ovid, Sedgwick Co., 1 July (STATE) (St).

Population shifts: Boloria eunomia caelestis, Caribou, 5 July, 113 individuals collected (J).

Life histories: Hesperia pawnee, larvae on Stipa comata (Fi). Neominois ridingsii, Bouteloua gracilis (Fi). Ed. note: Please report localities and dates of collection.

NEW MEXICO: Migratory species: Vanessa cardui migrating near Albuquerque, no counts or directions of movement noted (T).

Distribution records: Many new state records reported by (T) based on collections of O. Shields and S. Ellis, but not specified in report.

UTAH: Distribution records: Callophrys comstocki, Hellhole Canyon, Beaverdam Mts., Washington Co., 19 April (STATE) (C). Papilio indra near ssp. martini, Silver Reef, near Leeds, Washington Co., 18 April (STATE) (C). Anthocharis pima, Silver Reef, near Leeds, Washington Co., 18 April (STATE) (C). Pholisora alpheus, Antimony Creek, Garfield Co., 7 June (STATE) (C).

Life histories: Callophrys fotis, oviposition on Cowania stansburyana (Torr.), Cedar Mtns., Tooele Co., 16 May, (C). Papilio zelicaon, oviposition on Lomatium greyi, Cedar Mtns., Tooele Co., 16 May (C). Plant determinations by University of Utah staff.

WYOMING: Distribution records. Erynnis pacuvius lilius, Little White Creek, Bridger National Forest, Lincoln Co., 2 July, genitalia examined (STATE) (F). Colias gigantea harrowi, southwest of Lander, Fremont Co. (range extension, direction not noted) (N).

ZONE 4: SASKATCHEWAN, NORTH DAKOTA, SOUTH DAKOTA, NEBRASKA, KANSAS, OKLAHOMA, TEXAS. Regional editor: H. A. Freeman. Contributors: G. Balogh (B), P. J. Conway (C), C. J. and B. V. Durden (D), C. D. Ferris (F), H. A. Freeman (F), K. Kaufman (K), J. A. Scott (S).

KANSAS: Migratory species: Brephidium exilis, Wichita area, late September, "sizeable invasion (1-7 per day for 12 days)" (K).

TEXAS: Distribution records: Paratrytone melane vitellina, Chisos Mts., 20 September (STATE) (S).

ZONE 5: MISSOURI, KENTUCKY, INDIANA, ILLINOIS, OHIO, MICHIGAN, WISCONSIN, MINNESOTA, ONTARIO.

Regional editor: R. Heitzman. Contributors: D. Auger (A), G. Balogh (B), R. W. Bracher (Br), E. M. Brackney (Bra), P. J. Conway (C), C. V. Covell Jr. (Co), M. Dahnke (D), L. A. Ferge (F), F. Fitzgerald (Fi), R. S. Funk (Fu), J. R. Heitzman (H), R. L. Heitzman (He), R. W. Holzman (Ho), W. H. Howe (Howe), R. L. Huber (Hu), L. L. Martin (M), J. H. Martin (Ma), J. H. Masters (Ms), T. L. McCabe (Mc), J. H. Newman (N), M. C. Nielsen (Ni), P. D. Nordin (No), L. L. Pechumen (P), J. F. Redman (R), J. C. E. Riotte (R), A. M. Shapiro (S), E. M. Shull (Sh), W. E. Sieker (Si), K. J. Thorne (T), J. Walty (W), and R. Michaels (Mi).

MISSOURI: Migratory species: A huge Danaus plexippus migration passed through south-central portion of the state on 27 September in a south-southwest direction (Newspaper accounts).

Distribution records: Eudule unicolor, Warsaw, Benton Co., 20 June (STATE) (H, He). Catocala similis, Independence, Jackson Co., 17 June (STATE) (H, He). Catocala micronympha forms atarah and timandra, Independence, Jackson Co., 17 June (STATE) (H, He). Plusia purpurigera, Warsaw, Benton Co., 20 June (STATE) (H, He). Erebus odora, Kansas City, 9 Sept., first for state since 1914 (Howe). Amblyscirtes hegon, Warsaw, Benton Co., 3 May (first central Missouri record) (Hx, He). Phyciodes phaon, Lynch Hollow, Camden Co., (first central Missouri record) (Ms).

Population changes: First collections of Eupsyche m-album, Satyrion caryaeavorus, S. liparops, and Euristrymon ontario in eight years for the state (H, He). Populations of Anthocharis midea, Hesperia metea, Graphium marcellus, Battus philenor, and Speyeria idalia (population estimates or locations not given) (H, He).

KENTUCKY: Distribution records: Lycaena thoe, range in state extended west through five counties to Trigg Co. C. cesonia at Louisville in Sept. (Co), first in 5 years.

INDIANA: Migratory species: A spectacular fall migration of Danaus plexippus passed through the Granger area from the latter part of August to mid-September with stragglers until late October (Br).

Distribution records: Autochton cellus, Brown County State Park, near Nashville, 7 June (STATE) (Sh). Erynnis baptisiae (det. H. A. Freeman), near North Manchester, Kosciusko Co., 27 August (STATE) (Sh). Euphyes dukesi, North Manchester, Wabash Co., 27 June (range extension in state).

ILLINOIS: Life history: Polites themistocles, oviposition on Digitaria filiformis, near Wanda, Madison Co., 7 September, larvae hatched 16 September and adults emgd. 28 November (C).

OHIO: Migratory species: A huge migration of Danaus plexippus was recorded 17 September to 1 October with the peak 22-23 September. Approximately 80 individuals per hour passed a 100 yard front. Height above ground - four to 100 feet, direction -

south-southwest. Front at least 70 miles wide (Ma).

Population charges: Populations of Papilionine species increased from 50 to 200% in Cleveland area (Ma). Thymelicus lineola has become the most abundant skipper in the Cleveland area (Ma).

MICHIGAN: Distribution records: Oarisma powesheik, Livingston Co., 15 July (series) (Ni) and Oakland Co., 5 July (series) (Ho) (SOUTHEAST, 150 miles). Hemileuca maia, Roscommon Co., 19-20 September (abundant) (NORTH) (Ni). Cycnia inopinatus, Allegan Co., 23-24 May (SOUTHWEST) (Ni). Pyrgarctia spraguei, Allegan Co., (SOUTHWEST) (Ni). Schinia gloriosa, Fremont Newaygo Co., 13 June (STATE) (D. Epplerheimer). Caenurgina convalescens, Lenawee Co., 23 September (STATE) (N). Xylomyges alternans, Allegan Co., 23, 24 May (STATE) (Ni).

Population shifts: Thymelicus lineola, extremely common throughout lower peninsula and still spreading into new areas, (Ni). Pieris virginiensis, located in hardwoods along Michigan-Wisconsin line in Iron Co. and extending its range across upper peninsula and toward northern Wisconsin, (Ni). Euchloe olympia, western extension in the upper peninsula to Delta and Iron Counties. Libytheana bachmanni, Lenawee Co., 4-7 September, first collections in four years.

Life histories: Oarisma powesheik, oviposition on Eleocharis elliptica, Oakland Co., 18 July (Ho). Cycnia inopinatus, larvae on Asclepias tuberosa, St. Joseph Co. (Ni). Halisidota harrisii, larvae on Platanus, Bean Creek, Lenawee Co. (Ni). Eutricopis nexilis, larvae on flowers of Antennaria sp., Otsego and Iosco Cos. (Ni). Sibine stimulea, larvae on Cornus, St. Joseph Co. (Ni), larvae on Zea, St. Joseph Co. (N). Anisota virginiensis, larvae on Quercus nigra, (Ni).

WISCONSIN: Range extension: Boloria eunomia, bog near Cornell, Chippewa Co., 5 to 27 June (SOUTH for species east of Rocky mountains) (F. Karpuleon).

Life history: Lycaena thoe, ova on Rumex crispus, Marathon Co., 5 July, adults emgd. 9-12 August (F).

MINNESOTA: Distribution records: Erebia disa, Greenwood Lake, Lake Co., 21 June (STATE and COUNTRY) (Hu). Dolba hylaeus, Solano State Forest, Aitkin Co., 2 July (STATE) (No). Pholus labruscae, Rothsay, Wilkin Co., 14 August 1969 (STATE) (D).

Population shifts: Callophrys gryneus, Goodhue and Dakota Cos., 17 May, 3 June, 160 individuals collected, previously only 20 collected in state (Bergman, Bra, Hu).

ONTARIO: Distribution record: Euphyes dukesi, Essex Co., 11 July (PROVINCE) (Holmes).

ZONE 6 – SOUTHEAST: ARKANSAS, LOUISIANA, TENNESSEE, MISSISSIPPI, ALABAMA, FLORIDA, GEORGIA, SOUTH CAROLINA, NORTH CAROLINA and VIRGINIA. Regional editor: Bryant Mather. Contributors: V. A. Brou (B), C. T. Bryson (Br), C. V. Covell, Jr. (Co), R. R. Gatrell (G), Lucien Harris, Jr. (H), R. Kergosien (K), Bryant Mather (M), H. C. Monk (Mo), L. J. Paulissen (P), W. Stieffel (S), G. T. Strickland (St), J. B. Sullivan (Su), M. D. Taylor (T).

ARKANSAS: Distribution records: Erynnis ello, E. alope, both tropical species, Washington Co., at light (P).

LOUISIANA: Distribution records: Brephidium exilis, Cameron, Cameron Parish, 12-13 September (STATE) (St). Brephidium pseudofea, Isle au Pitre, 25 June and Chandeleur Islands, 31 July, 1 August (STATE) (St). Panoquina panoquinoides, Chandeleur Islands, 1 August (EAST) (St). Amblyscirtes samoset, Vowell's Mill, Natchitoches Parish, 2 April (STATE) (St). Euphyes palatka, Cameron, Cameron Parish, 18 October (STATE) (St). Hesperia metea, Greensburg, St. Helena Parish, 24 March to 8 April (STATE) (St). Nastra neamathla, Cameron, Cameron Parish, 26 April, 2, 13 Sept. and Johnston's Bayou, Cameron Parish, 14 September (STATE) (St). Urbanus dorantes, Baton Rouge, East Baton Rouge Parish, 21 September (STATE) (St). The following species of Sphingidae collected at U. V. light by (B) at Edgard have not been reported for the STATE: Ampeloeca myron, Cressonia juglandis, Cerastomia catalpae, Paonias myops, Celerio lineata, Atreides plebeius, Hemaris diffinis, Darapsa pholus, Ceratomia amyntor, Dolba hylaeus, Hemaris thysbe, (Slidell), Ampeloeca versicolor, Sphecodina abbottii (Fontainebleau State Park), Deidamia inscriptum, Amphion nessus.

Life history: Euphyes dukesi, Oviposition on Carex hyalenolepis, 23 August 1969, overwintered as fourth instar larva, pupated 21 April, female emgd. 10 May. In field adults occur all months from May to November (St).

TENNESSEE: Life history: Calpodus ethlius, Nashville, Davidson Co., 11 August, young larvae on Canna, adults emgd. 3 September (Mo).

Migratory species: Phoebis sennae, Nashville, Davidson Co., transients on only 29 days, average for 24 years is 50 days, range 4 to 88 days. This year August 19 to November 8. Six or less per days during movement which is always southeast (Mo). Danaus plexippus, Nashville, Davidson Co., August 19 through 8 November, most numerous during last week of September and first half of October. High counts, 24 on Sept. 28 between 6:15 and 7:00 P.M., 150 yard front. September 29, 76 across 200 yard front during two hours at mid-day. October 3, 34 across 200 yard front during one hour at mid-day. October 5, 27 across 200 yard front during one and a half hours at mid-day. Flight is consistently west of south by 10 to 15 degrees (Mo).

MISSISSIPPI: Distribution records: Anartia jatrophae guantanamo, Darwood, Hancock Co. and Bay St. Louis, 30 July to 22 November, more than 50 individuals seen on some days (STATE) (K, S). Hypolimnas misippus, 6 August, no locality given, sight record (STATE) (K, S). Euphydryas phaeton ozarkae, Grenada, Grenada Co., 3 June (STATE) (Br). Urbanus dorantes dorantes, 13 September, no locality given, determined by Clench and Miller (STATE) (K, S). Catocala angusi, Jackson, Hinds Co. (STATE) (M). Catocala obscura, Jackson, Hinds Co. (STATE) (M). Catocala sappho, Jackson, Hinds Co. (STATE) (M). Catocala clintoni, Jackson, Hinds Co. (STATE) (M).

Migratory species: Danaus plexippus, Highway 90 between Gulfport and Pass Christian, 16 October, "exceeding the tens of thousands", moving west (K, S), State College, Oktibbeha Co., April-May, August-December (Br). Phoebis sennae, State

College, Oktibbeha Co., one moving north on 14 April, many moving southeast from July to December.

ALABAMA: Migratory species: Danaus plexippus, Huntsville, Madison Co., 2-4 October, moving South (Br). Agraulis vanillae nigrior, Huntsville, Madison Co., 2-4 October, moving south (Br).

GEORGIA: Distribution record: Incisalia henrici margaretae, Jekyll Island, 16, 17 March 1965 (STATE) (A. Towers). Previous Georgia records represent the nominate subspecies and are from the Piedmont and mountains. (Ed note: Henceforth, no state records from previous years will be accepted.)

ZONE 7 – NORTHEAST: LABRADOR south to PENNSYLVANIA. Regional editor: L. P. Grey. Contributors: E. Brower (B), G. Ehle (E), L. P. Grey (G), J. Holmes (H), R. May (M), C. Majka (Ma), M. Okolowicz (O), R. Pease (P), E. Peters (P), J. Prescott (Pr), E. Quinter (Q), A. Shapiro (S), D. Schweitzer (Sc), P. Ward (W).

NEW BRUNSWICK: Migratory species: Danaus plexippus, spring through fall, best flights ever (Ma).

MAINE: Distribution records: Thymelicus lineola, Madawaska, end of July (STATE) (Hensel). Amyna octo, Augusta (STATE) (B). Crambodes talidiformis, Augusta, range extension, two previous records from Kittery (B).

Migratory species: Danaus plexippus, Augusta, "strongly up", none seen in central Maine by regional editor (B).

RHODE ISLAND: Population shifts: Thymelicus lineola, continues to "explode" in many new areas (O).

CONNECTICUT: Population shifts: Thymelicus lineola, Litchfield Co., "coming into new territories" (O).

NEW YORK: Distribution records: Eurema lisa, near Elizabethtown, Essex Co. (NORTH) (S). Chlosyne gorgone, Tug Hill plateau, Lewis Co. (first for northeastern states) (S). Satyrion edwardsii, Dyke, Steuben Co. (first central state) (S). Asterocampa celtis, Upper Lisle, Broome Co., 14 June (first central state) (S).

Migratory species: Danaus plexippus, Staten Island, 7 November (peak), 50,000 individuals on a mile of seaside goldenrod (Solidago) (S).

Life histories: Chlosyne harrisii, Dyke, Steuben Co., larvae abundant in tents on Aster umbellatus (S). Chlosyne nycteis, Tonawanda Indian Reservation, Genesee Co., May, a few larvae on sprouts of Helianthus, adults emgd. 9 June.

NEW JERSEY: Migratory species: Danaus plexippus, near Caldwell, small flights in fall (M).

Population shifts: Porthetria dispar, Pequannock watershed and elsewhere in north state, massive outbreak (M). Thymelicus lineola, near Hopewell, Mercer Co., 12 June, "hundreds of thousands" (S). Incisalia henrici, polios, niphon, and augustinus, Pine Barrens, former two species abundant, latter two "by the thousands." (Q).

Life histories: Lithophane patefacta, Vaccinium, Prunus (leaves, flowers, fruit) (Sc). Metaglaea sp. near viatica (?), Rosa, Rubus, Lonicera japonica (Sc). Stenaspilates antiscaria, larvae accepted Vaccinium, "leatherleaf", and Prunus (Sc). (Ed. note: these seem to represent laboratory acceptance tests and do not represent field observations.) Mating time for Lithophane patefacta, 11:45 P.M. to 1:00 in outdoor cage (Sc). Mating time for Eupsilia vinulenta (caged), "early evening." (Sc).

PENNSYLVANIA: Distribution records: Cerura modesta, Schuylkill Co., 10 May (STATE) (Q). Catocala miranda, Schuylkill Co., 21 July 1969 (STATE) (Q). Paectes pygmalio, French Creek State Park, Berks and Chester Cos., May 28 to 2 June, light trap (STATE) (Sc). Metarrhanthia homuraria, French Creek State Park, 28 May to 2 June, light trap, present in southeast counties most years (STATE) (Sc). Cleora manitoba, French Creek State Park, 30 April, 5 May (STATE) (Sc). Hydriomena pluviala and H. transfigurata, French Creek State Park, early May (both STATE) (Sc). Zale duplicata and Z. helata, near Devon, Chester Co., 28 to 31 May, (both STATE) (Sc). Jodia rufago, French Creek State Park, 26 March to 4 April, bait trap (SOUTHEAST) (Sc). Chomachara cadburyi, French Creek State Park, 28 May to 2 June, at light (WEST) (Sc). Apantesis intermedia, French Creek State Park, 7-12 September (SOUTHEAST).

Population shifts: Mitoura gryneus, Erynnis spp., Lycaena phlaeus, Boloria selene, Vanessa virginiensis, Poanes zabulon, Celastrina argiolus, Euptychia cymela, Achalarus lyciades and Thorybes bathyllus, Lancaster Co., notable population increases after many poor years (E). Thymelicus lineola, Harford, Susquehanna Co., 14 June, common, and New Hope, Bucks Co., 13 June, swarming (both S). Taeniocampa spp., near Auburn, Schuylkill Co., light traps, notably abundant, a thousand individuals in one night. T. revicta, T. alurina, and T. garmani, usually scarce were high, while T. rubescens and T. hibisci were taken by the thousands (Q). Physostegania pustularia, near Auburn, Schuylkill Co., low this year, but a pest at economic levels in recent years (Q). Malacosoma americana, Schuylkill Co., notable increase in numbers with severe defoliation. Croesia semipurpurana, Archips semiferana, and A. argyrospilus (all Tortricidae), hardwood ridges in southeast state, total defoliation (Q). Choristoneura fumiferana and C. pinus maritima (Tortricidae), Schuylkill Co., normally absent were abundant this year with over 10,000 C. fumiferana in light traps on night of 13 July (practically absent nights before and after (Q). Porthetria dispar, Somerset, Schuylkill, Northampton, Munroe, and Pike Cos., continued to expand range to south and west, 10-15,000 acres totally defoliated, trees dying (Q). Epimecis hortaria, melanic individuals the commonest summer "macro" at French Creek State Park, Berks and Chester Cos. (Sc).

Life histories: Callosamia angulifera, French Creek State Park, July to August, larvae abundant on Liriodendron, males could be observed flying at dusk about 15 to 20 feet above the ground, and during June, as many as 30 males were attracted to a confined female at dusk (Sc). Papaipema baptisiae, Devon, Chester Co., 10 per cent of large stand of Apocynum killed. (Sc). Papaipema astuta, Devon, Chester Co., larvae on Collisonia canadensis (Sc).

ZONE 8 – THE FAR NORTH: Coordinator: Kenelm W. Philip. Contributors: J. Ebner (E), D. Eff (Ef), J. Nordin (N), K. Philip (and collectors for the Alaska Lepidoptera Survey, listed below under their localities).

NORTHWEST TERRITORIES: Baker Lake, 26 June to 20 July. Species recorded are: *Colias hecla*, *C. boothii*, *C. palaeno*, *C. nastes*, *Boloria napaea*, *B. frigga*, *B. improba*, *B. polaris*, *B. freija*, *B. chariclea*, *B. eunomia*, *Oeneis taygete/bore*, *O. melissa*, *O. polixenes*, *Erebia rossii*, *E. fasciata* (E).

YUKON TERRITORY: Reports from Mt. Fitton and Mt. Sedgwick, Mayo and vicinity, and Burwash Landing. From Mts. Fitton and Sedgwick, 2000-3000', British Mountains (west of the Richardson Mts. (E) - the extension of the Brooks Range into the extreme northern end of the Territory), 4-5 July, species recorded are: *Colias hecla*, *C. boothii*, *C. palaeno*, *Plebejus optilete*, *P. aquilo*, *Boloria frigga*, *B. improba*, *B. polaris*, *B. freija*, *B. distincta*, *B. chariclea*, *B. eunomia*, *Coenonympha mixturata*, *Oeneis taygete/bore*, *O. polixenes*, *Erebia rossii*, *E. disa*, *E. fasciata*, *E. youngi*. From Mayo and vicinity, May through July, species are: *Polites draco*, *Erynnis persius*, *Parnassius eversmanni*, *Papilio machaon*, *P. glaucus*, *Pieris occidentalis*, *P. napi*, *Colias hecla*, *C. philodice*, *C. palaeno*, *Euchloe creusa*, *E. ausonides*, *Lycaena dorcas*, *Lycaeides argyrognomon*, *Plebejus optilete*, *Glaucopsyche lygdamus*, *Celastrina argiolus*, *Polygona faunus*, *P. gracilis*, *Boloria napaea*, *B. frigga*, *B. improba*, *B. freija*, *B. chariclea/titania*, *Oeneis taygete/bore*, *O. jutta*, *O. melissa*, *Erebia disa*, *E. discoidalis*, *E. epipsodea*. From Burwash Landing, near NW end of Kluane Lake, 5000', 17 June, species are: *Erynnis persius*, *Parnassius eversmanni*, *Papilio machaon*, *P. glaucus*, *Pieris napi*, *Colias hecla*, *Euchloe creusa*, *Glaucopsyche lygdamus*, *Boloria frigga*, *B. freija*, *Oeneis taygete/bore*, *O. polixenes*, *Erebia rossii*, *E. disa*, *E. fasciata*, *E. discoidalis*. Haines and Alaska highways: From the Haines Highway, mile 104-154: *Polites draco*, *Pieris napi*, *Colias philodice*, *C. palaeno*, *Euchloe ausonides*, *Plebejus saepiolus*, *Glaucopsyche lygdamus*, *Phyciodes campestris*, *Euphydryas anicia*, *Boloria frigga*, *Coenonympha mixturata*, *Oeneis bore*, *Erebia disa*, *E. epipsodea* (N). From the Alaska Highway, mile 1030-1135 (Alaska border is mile 1221.3): *Erynnis persius*, *Colias hecla*, *C. philodice*, *C. christina*, *Euchloe ausonides*, *Lycaeides argyrognomon*, *Everes amyntula*, *Glaucopsyche lygdamus*, *Coenonympha mixturata*, *Erebia disa* (N).

ALASKA: Ebner, Nordin, and Philip report from various parts of Alaska. In 1970 the volunteer collectors working for Philip were increased in number, with some support from C. F. dos Passos and the Institute of Arctic Biology, U. of Alaska, and organized into what is now being called the Alaska Lepidoptera Survey. The degree of cooperation received was most gratifying, and current plans are to continue and expand the Survey during subsequent summers.

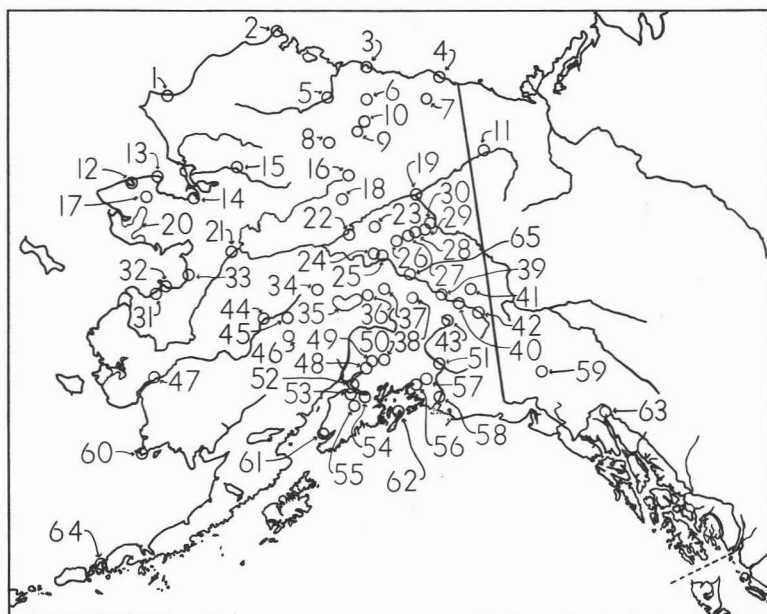
Abundances: *Incisalia augustinus* and *I. polios* were very scarce in Goldstream Valley, near Fairbanks, although they are usually common. The winter of 1969-70 had one of the lightest snowfalls ever recorded in Fairbanks, which may have affected many overwintering insects. *Colias gigantea* was not seen in Goldstream Valley either, but probably because its flight period was during the cloudy spell. *Hesperia manitoba*, *Boloria polaris*, *B. chariclea*, *Oeneis jutta*, *O. polixenes* (below treeline), and *Erebia disa* were all absent from the Fairbanks area, with the exception of the locality at mile 90.2 Steese Highway, which proved to support an even-year colony of *B. chariclea*, and produced one of *E. disa*. In general, the odd-year pattern for the 5 species listed above seems to be holding in the vicinity of Fairbanks.

Range extensions: The range of *Boloria distincta* has been extended to Nome, 500 miles west of any previous North American record (not surprising in view of its occurrence in eastern Siberia). The Nome specimens may represent a new race, but more material is needed before such questions can be answered. *Euchloe creusa* is now confirmed from Nome. *Lycaeides argyrognomon* and *Coenonympha mixturata* are very common at Sagwon, which is out on the North Slope and a typical tundra habitat (except for some scrub willow thickets). The interior forest, which stretches out several long tongues to the north up river valleys into the Brooks Range, does not come within 80 miles of Sagwon at any point. *Erebia theano* turned up at Sagwon as well. *Colias thula*, described from Meade River (SW of Point Barrow) is now known to fly on the coastal tundra from Nome to Sagwon. *C. thula* was described as a subspecies of *C. nastes*, but is being listed here as a separate taxon, subject to more information coming in about its relation to both *C. nastes* and *C. boothii*. *Erebia dabanensis* was recorded from McKinley Park in 1969 (by Warren). It is not clear yet whether the butterfly called *E. dabanensis* below is in fact the same insect, but if so then the Nome record is a

range extension. The Nome specimens are distinguishable from *E. youngi* by facies, while the McKinley Park ones are not.

Life histories: Philip received eggs of *Colias thula* from near Nome, and was able to raise them to adult on *Lupinus arcticus*. No evidence as to whether that is a foodplant of choice in the wild, however. *Celastrina argiolus* was observed ovipositing on *Ledum palustre*, placing the egg just under the terminal bud (as usual).

Species records, other than the Survey: Nordin collected along the Richardson Highway, July 3-4, between Delta Junction and Gulkana, through the Alaska Range. The following localities were collected: Delta Junction (on the Tanana River), below treeline (A); Richardson Highway mile 229 and 225, near Black Rapids, north edge Alaska Range, just below treeline (B); Isabel Pass and Summit Lake, about 3200', tundra (C); Denali Highway, mile 5 and 17, tundra (D); 1 mile below Paxson, below treeline (E); Richardson Highway mile 166.8, southern foothills Alaska Range (F); Mile 132.2, near junction with Glenn Highway (G). On the map at left of Alaska Lepidoptera Survey localities, Nordin's locality (A) is just NE of No. 38, while (B-G) run south from



No. 38 a bit over halfway to No. 57. Species recorded are: Hesperia comma (F), Pieris napi (D), Colias philodice (B, C, E), C. palaeno (D), Euchloe ausonides (E), Lycaeides argyrognomon (A, B), Plebejus saepiolus (C, E), P. optilete (G), Everes amyntula (C), Glaucopsyche lygdamus (B, E), Polygonia faunus (C), Phyciodes campestris (E, G), Boloria frigga (D, E), B. chariclea (D), B. eunomia (G), Coenonympha mixturata (C, E, G), Erebia disa (F). Nordin also visited several Survey localities, and additional species obtained by him will have the locality number underlined on the list of Survey records below.

Alaska Lepidoptera Survey records: Because of the amount of data being presented, the Survey records will be given in the following format:

1. A map of Alaska with all Survey localities numbered.
2. A list of species giving the locality numbers at which each species was found.
3. A locality list in numerical order, with collectors' names.

For some localities, a brief description of habitat is added. "Taiga" refers to the black spruce-aspen-birch forest of the interior, while "Coastal forest" refers to the Sitka spruce-hemlock forests of South and Southeast Alaska. "Muskeg", although similar to wet tundra, is used to refer to such areas as small inclusions in the taiga. Note that some localities yielded very few specimens, but the records were considered of interest due to the paucity of Alaskan records in the literature. A number of localities (4, 6, 8, 9, 20, 24, 25, 28, 29, 35, 48, 60, 64) were collected thoroughly enough that the results are probably representative of the butterfly fauna.

BUTTERFLIES: Carterocephalus palaemon 25a, 29, 30, 48a. Erynnis persius 24, 29, 48a. Parnassius eversmanni 8, 9, 20, 28a, 35, 36. P. phoebus 20, 35, 48b. Papilio machaon 8, 10, 20, 24, 25b, 27b, 28a, b, 29, 32, 35, 48b, 63. P. glaucus 25a, 26, 29, 34, 46, 48a, 50, 55. Pieris occidentalis* 8, 20, 24, 25b, 28a, 48b, 59. P. napi 8, 12, 14, 15, 20, 24, 25a, b, 26, 27a, b, 28a, b, 29, 30, 32, 34, 35, 36, 43, 48a, 56, 57, 60, 63, 64. Colias hecla 3, 4, 5, 6, 8, 9, 11, 12, 20, 24, 25a, 28a, 29, 35, 43, 50*, 59. C. thula* 1, 6, 8, 9, 20. C. philodice 8, 15, 28b, 29, 35, 37, 43, 46, 48a, 50, 59. C. gigantea 5, 6, 11, 29. C. christina 59. C. palaeno 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 20, 25a, b, 26, 27a, b, 28a, b, 29, 34, 35, 37, 38, 41, 43, 44, 45, 48b, 50. C. nastes 4, 6, 8, 9, 20, 27a, 28a, 35. Euchloe creusa 20, 27b. E. ausonides 25a, 29, 50, 57. Incisalia augustinus 25a. I. polios 25a. Lycaena dorcas 25a, 35, 61. L. phlaeas 35. Lycaeides argyrognomon 5, 6, 8, 9, 11, 25b, 26, 27b, 39, 40, 43, 46, 48b, 50, 59. Plebejus saepiolus 11, 25a, 29, 35, 43*. P. optilete 11, 14, 18, 20, 25a, b, 26, 27b, 28b, 29, 35, 43, 46, 48b. P. aquilo 11, 28a, 35. Everes amyntula* 25a, 28b, 35, 36, 43, 48a, 50. Glaucopsyche lygdamus 25a, 29, 35, 36, 48a, 50, 51. Celastrina argiolus 23, 24, 25a, b, 26, 29, 36, 50, 51, 53, 63. Limenitis arthemis 22, 25b, 34, 39. Nymphalis antiopa 15, 19, 24, 25a, 34, 48a. N. milberti 48b, 55, 58. Polygonia faunus 25a, 30, 48a*, 50*, 65. P. gracilis 11, 15, 24, 25a, b, 26, 50. Phyciodes campestris 11, 25a, 48a, 50, 59. Euphydryas anicia 59. Boloria napaea 6, 8, 9, 10, 11, 20, 27a, 28a, 35, 48b. B. frigga 4, 5, 6, 8, 9, 12, 14, 20, 25a, 28b, 48a. B. improba 1, 4, 6, 8, 20, 28a. B. polaris 4, 6, 8, 20. B. freija 5, 6, 8, 9, 14, 20, 23, 24, 25a, b, 27b, 29, 30, 35, 48b. B. distincta 20. B. titania 25a, 29, 42. B. chariclea 1, 4, 5, 6, 8, 9, 10, 11, 12, 14, 20, 27a, b, 28b, 35, 46, 59, 60. B. eunomia 20, 25a, 27a, b, 28b, 35. Speyeria mormonia 48b, 54. Coenonympha mixturata 6, 11, 13, 14, 17, 20, 25a, 27b, 28b, 35, 36, 37, 46, 59. Oeneis bore 5, 6, 8, 9, 10, 11, 27b, 28a, b, 32, 35. O. jutta 18. O. melissa 10*, 28a, 35. O. polixenes 4, 12, 20, 35, 60. Erebia rossii 6, 8, 9, 12, 20, 27b, 29, 31, 32. E. disa 6, 8, 9, 14, 18, 20, 23, 27b, 32. E. magdalena 28a. E. fasciata 6, 8, 9, 24, 28a, 35. E. discoidalis 16, 24, 25a, 29. E. theano 5, 6, 8, 35, 59. E. youngi 5, 6, 8, 9, 11, 20, 28a, 35. E. dabanensis* 20. E. epipsodea 25a, 29.

An asterisk after a species means the determination is tentative, and may be revised later. An asterisk after a locality number indicates a tentative determination for the material from that locality only. Underlined numbers are Nordin records.

MOTHS: Hemaris thysbe 25a, 50. Spectrum gallii 48a. Phragmatobia fuliginosa 34. Apantesis quenselii* 5, 9, 10. A. sp. 12. Parasemia plantaginis 25a, 48a. Platartia parthenos 34. Parartia lapponica 20. P. subnebulosa 10. Arctia caja 12, 29. Androloma maccullochi 53. Alypia langtoni 63. Archanaarta quietia 8. Barrovia fasciata 4. Anarta cordigera 6, 25a. A. m. melanopa 20. A. richardsoni 6, 20. Simpistis z. zetterstedti 6, 20, 28a. Lithomoia solidaginis 25a. Agroperina dubitans 63. Crymodes devastator 23, 63. Syngrapha alticola 20. S. lula or borea 25b. S. octoscripta 20, 43. Autographa pulchrina 25a. A. pseudo-gamma* 20, 35. Caenurgia crassiuscula 25a, 35. Clostera albosigma 25a. Byrdia rossi 2. Archiearis infans 25a. Leucobrephe brepheoides 25a. Mesothea incertata 25a. Scopula frigidaria 5, 6, 11, 14, 20, 25a, 35, 38. Holarctia sentinaria 6, 8, 11, 20, 35. Sterrhia rotundopennata 25a. Carsia paludata 20, 25b, 61. Lobophora magnoliadoidata* 57. Trichodezia a. albivittata 63. Hydria undulata 63. Eupithecia bryanti 17. Lygris destinata 17, 20, 35, 61*. L. xylina 59. Diactinia sp. 20. Colostigia turbata 20. Dysstroma citrata* 17. Stannodes t. topazata 20, 25a. Hydriomena f. furcata 20, 59. Xanthorhoe emendata 63. X. munitata 59. X. ferrugata 38, 63. X. borealis* 6, 8, 14. X. near ramaria 63. X. fossaria 17, 20, 38. X. abrasaria aquilonaria 59. Dasyuris polata ssp. 20. D. p. kidluitata 6. Psychophora suttoni* 20. Entephria aurata 20. Epirrhoe sperryi 25a. E. alternata 57. Spargania magnoliata pernotata 63. S. luctuata 63. Euphyia u. intermediata 63. Rheumaptera hastata 25a, 51, 63. R. subhastata 56. Perizoma grandis 63. Deilinia borealis 25a. D. exanthemata bryantaria 63. Isturgia truncataria 24, 25a, b. Itame fulvaria 11, 25a, b, 27b, 35, 54. I. near anataria 11, 25b, 27b, 35. Dysmigea loricaria 59. Aspilates forbesi 6, 28a. A. orci-ferarius 5, 8, 28a. Campaea perlata 25a, 29, 48a, 63. Crambus alienellus labradoriensis 14. C. perlellus innotatellus 52, 59, 63. Pediasa b. browerellus 8, 38. Catoptria trichostana 8, 14, 38. Pyla fusca 8. Tia vulgana 8. Olethreutes glaciana 14, 38. O. in-termistana 14, 20. Argyroplote inquietana* 28a. Epiblema sp. 8. Gypsonoma fasciolana 6. G. parryana* 8, 14. Anchylopera subaequana 24. Olethreutes kennethana 6, 8, 14, 20. Clepsis moeschleriana 6, 8, 14, 20. Aphelia septentrionalis* 6. Eana o. osseana 6, 18, 17. Lozotaenia hesperia 8. Nemophora bellela 14. Adela purpurea 25a.

Asterisks again mean tentative determination. Locality numbers which appear on neither list above mean the locality produced only moths, which are as yet undetermined. The localities will be mentioned in the list below, however, in case the remaining moths can be listed at some later time.

Localities (and collectors): 1 = Cape Sabine, tundra (R. Bishop). 2 = Point Barrow, cocoons on dry tundra ridge (D. Norton). 3 = Prudhoe Bay, tundra (P. Flanagan). 4 = Beaufort Lagoon, tundra along shoreline (E. Feltz, D. Hartbauer, M. Johnson, E.

Komarek, B. Murray, R. Rausch). 5 = Umiat (S. Kogl and Gubik Gas Field [Chandler and Colville rivers] (J. Hok), both tundra. 6 = Sagwon, on lower Sagavanirktok River, tundra, some dry, with the best collecting along the river bank in a wind-sheltered area (P. Flanagan, R. Gorham). 7 = McCall Glacier, 6560', over the ice (C. Fahl). 8 = Anaktuvuk Pass, wet and dry tundra, scrub willow, best collecting along wind-sheltered banks, 2200-3000' (K. Philip). 9 = Galbraith Lake, tundra (P. Craig, R. Gorham). 10 = Sagavanirktok River, above Sagwon, dry tundra (J. Dixon). 11 = Old Crow, Yukon Territory (J. Holland). 12 = Shishmaref and vicinity, tundra (W. Foster, D. Hopkins). 13 = Cape Espenberg, tundra (D. Hopkins). 14 = Buckland and Elephant Point, tundra (G. Kunkle). 15 = Kobuk River near mouth of Ambler River, taiga (R. Epstein). 16 = Rosie Creek, near Wiseman, about 1000', taiga/tundra (P. Flanagan). 17 = Serpentine Hot Springs, tundra, with some taller growth near cabins (D. Roseneau). 18 = Fish Creek, well drained valley meadow, lichen and heath (K. Gormley). 19 = Fort Yukon, larvae on willow (R. Rausch). 20 = Nome and vicinity, wet and dry tundra and willow, 0-1200' (W. Foster, D. Roseneau, W. Walker). 21 = Nulato (C. Wolf). 22 = Rampart (C. Wolf). 23 = Hess Creek, black spruce and muskeg (K. Gormley, P. Flanagan). 24 = Murphy Dome, tundra, 2800'. 25a = Fairbanks and vicinity, taiga, muskeg, fields, 450-1300'. 25b = Ester Dome, small patch of tundra, 2200'. 26 = Steese Highway, mile 53.5, creek bottomland in taiga. 27a = Twelve Mile Summit, tundra, 3100'. 27b = Steese Highway, mile 90.2, willow scrub, 2300' (No. 24, No. 27b K. Philip). 28a = Eagle Summit, tundra, 3500-4000' (K. Philip, R. Rausch). 28b = Steese Highway, mile 97.2 and 102 (K. Philip) and Eagle Creek (K. Philip, T. Chapin), 2000-2700 feet, willow scrub at treeline. 29 = Central and Circle Hot Springs and vicinity, taiga (J. and M. Berrie, J. Burns, K. Philip). 30 = Birch Creek, taiga (W. Berry). 31 = Pikmiktalik, tundra (K. Koutsky). 32 = Saint Michael, tundra (K. Koutsky). 33 = Unalakleet, wet tundra/taiga (W. Foster). 34 = Lake Minchumina, taiga (D., J., M. and R. Collins). 35 = McKinley Park along and near road from Sable Pass to Kantishna [which is just outside Park], tundra, some willow and spruce near treeline (E., K. and P. Pyne). 36 = McKinley Park Hotel and vicinity, taiga (S. Jones). 37 = Wood River, north edge Alaska Range, 3000' (F. Smith). 38 = mountains west of Donnelly, tundra (D. Murray). 39 = Dot Lake, taiga (K. Sommerman). 40 = Tok, taiga (L. Jennings). 41 = Mount Fairplay, tundra (L. Jennings). 42 = Northway, taiga (K. Sommerman). 43 = Mentasta and Indian Pass, about 2300' (L. Jennings, S. Miers). 44 = McGrath, taiga (R. Bishop). 45 = Nikolai, taiga/muskeg (R. Bishop). 46 = Farewell, taiga (P. Reed). 47 = Bethel, tundra (M. and L. Dick). 48a = Palmer and Matanuska, fields and taiga (W. Phillips). 48b = Lazy Mtn. and Red Mtn. [next peak N of Lazy Mtn.], taiga/tundra (W. Phillips). 49 = [Disregard this No.]. 50 = Index Lake, taiga near treeline (W. Phillips). 51 = Liberty Falls, near Chitina, taiga (E. and K. Pyne). 52 = Anchorage (M. and L. Dick). 53 = Chickaloon Flats, salt marsh/coastal forest (R. Quimby). 54 = Turnagain Pass, coastal forest near treeline (R. Rausch). 55 = Cooper Landing, coastal forest (L. Beckwith). 56 = Silver Falls, near Valdez, coastal forest (H. Marshall). 57 = Tsina River bridge (H. Marshall). 58 = Copper River bridge, near Cordova (G. Nielsen). 59 = S end of Kluane Lake, taiga/tundra (D. Murray). 60 = Cape Peirce, dry heath tundra to wet tundra and salt marsh (M. and L. Dick). 61 = Homer and Anchor River, coastal forest (R. Rausch). 62 = Montague Island, coastal forest (P. Lent). 63 = Skagway, coastal forest (P. Huff, B. Kalen). 64 = Cold Bay, Aleutian tundra and willow (R. Jones). 65 = Shaw Creek, taiga (R. Rausch). Note: locality No. 20 is the entire area within the line at the end of the arrow. The collectors covered too much ground to fit within the usual circle.

ZONE 10 – NORTHERN NEOTROPICS: Regional editor: E. C. Welling M., Contributors: C. J. and B. V. Durden (D), R. S. Funk (F), W. H. Howe (H), D. Schwehr, E. C. Welling M. (W), J. Williams.

MEXICO (by state) – TAMAULIPAS: Papilio pilumnus, P. palamedes, Dolymorpha jada, Pholus vitis, Catocala desdemona, oak forests west of Ciudad Victoria, early June (H). Gómez Farias, semideciduous rain forest, late December, 150 spp. including Callophrys goodsoni, "Thecla" phaea, "T." phoebe, "T." echion, "T." columella, "T." yojoa, "T." alea, "T." coronata, "T." nepia, "T." ortygus, "T." spurina, "T." buchholzi, "T." simaethis, "T." bazochii, Calydna venusta, Euselasia hieronymi, E. inconspicua, Diorina arcus, Heliconius ismenius, Dismorphia albania, Pseudopieris nehemia, Itaballia viardi, Eryphanis aescalus, Narope testacea, Telegonus chiriquensis, T. grullus, T. ampyx, Neoxeniades molion, Ancyloxypha arene (D).

VERA CRUZ: Córdoba, mid-June, Codatractus arizonensis, C. cyledis, Onensis hyalophora (H).

SONORA: San Luis Río Colorado, June, Pholisora graciellae (det. MacNeill), and larvae of Apodemia mormo ssp. on Eriogonum inflatum, August (F).

SINALOA: Tropic of Cancer, Papilio polydamus, P. astyalus (F). Concordia, 4, 5 July, Graphium philolaus, G. epidaus (F).

BAJA CALIFORNIA SUR: Cogia hippalus peninsularis (det. Miller and MacNeill), Thorybes valeriana, Ministrymon leda, near El Triunfo, July (F).

PUEBLA: Zestusa staudingeri elwesi (det. MacNeill), high country, 19 June (H).

QUERÉTARO: Eupackardia calleta (pupa), Achalarus tehucana, near Pena Blanca, mid-June (H).

OAXACA: Papilio astyalus and Graphium epidaus, more common than usual (W).

CHIAPAS: Papilionidae, Erycinidae, Lycaenidae, and Hesperidae, found in appallingly low numbers (W).

YUCATÁN: Lepidoptera population at an all time low (W).

QUINTANA ROO: Only 150 individuals collected all year (W).

APPENDIX

CONSERVATION. — Goose Lake Prairie, Grundy Co., Illinois, was acquired by that state for preservation. P. J. Conway, who made three trips there in July, found 32 species of butterflies in this virgin tract of prairie.

In Quebec, the park service has made surveys concerning the advisability of closing the Mt. Albert Tableland to insect collecting.

In Maine, Mt. Katahdin is no longer open to butterfly collectors. This decision was made by the Park Superintendant and is a poor one according to L. P. Grey.

Members wishing to collect in Banff National Park, Alberta, must now obtain a permit from the Bureau of Indian Affairs in Ottawa.

The most endangered species or local populations in California are those which are found in unique habitats along the coast, especially those occurring in dune areas or bogs. Aside from housing developments and freeway construction, poor planning in State Beaches causes much havoc; placement of extensive asphalt parking lots, introduction of ice-plant, and presence of dune buggies are taking their toll. The dunes at Pismo Beach and Oso Flaco where several endemic microlepidoptera occur are almost gone, while the famous El Segundo dunes in Los Angeles have been destroyed.

COLLECTING SPOT. — Anaktuvuk Pass, Alaska, is accessible by scheduled airline from Fairbanks (twice weekly). K. Philip found 22 species of butterflies there during a ten-day stay in mid-July, all within a mile of the local village. No accommodations, so bring food, camping gear, and head nets.

FAUNAL SURVEYS. — Nevada, butterflies, P. Herlan, Nevada State Museum; Utah, butterflies, C. Callaghan and K. Tidwell; Colorado, butterflies, Fisher and Stanford; New Mexico, butterflies, Tolliver; Wyoming, butterflies, Ferris; Alberta, moths, Pforr; Texas, butterflies, Durdens; Michigan, butterflies and moths, Nielsen; Mississippi, butterflies, Kergosien, Mather, Stieffel, moths, Mather; Tennessee, butterflies, Monk; Missouri, butterflies and moths, Heitzman; Kentucky, butterflies and moths, Covell; South Carolina, butterflies, Gatrell; North Carolina, butterflies, Sullivan; Maine, moths, Brower; Connecticut, butterflies, Peters, Arachnis, Pease; New York (ssp. Staten Island), butterflies, Shapiro; New Jersey, butterflies, May, Pinter; moths, Schweitzer; Pennsylvania, butterflies, Ehle, moths, Quinter, Schweitzer; Ontario, Lepidoptera, Riotte; Yukon Territory, butterflies, Ebner; British Columbia, butterflies, J. Sheppard; Alaska, butterflies and moths, K. Philip.

REARING PROGRAMS. — (1) Western butterflies, especially host records, Emmel and Shields; (2) California macro-moths, especially Annaphila, C. Henne; (3) Western Microlepidoptera, especially Prodoxinae, Eucosminae, Choristoneura, leaf-mining families, Powell (California Insect Survey, Univ. California, Berkeley); (4) Speyeria, R. Davis, Mattoon, and McCorkle; (5) Boloria, Sheppard; (6) Washington butterflies, McCorkle and Newcomer; (6) Alaskan butterflies, K. Phillip; (7) Michigan Lepidoptera, Nielsen; (8) Euphydryas and Satyrinae, M. Collins, L. Gilbert, K. Weissman (Stanford Univ.); (9) Nearctic Lycaenidae, J. Downey.

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Items for inclusion in the NEWS should be sent to the Editor of the NEWS, Dr. Charles V. Covell, Jr., Department of Biology, University of Louisville, Louisville, Ky. 40208, U.S.A.

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