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HUGH AVERY FREEMAN (1912 - 2002): REFLECTIONS ON HIS LIFE AND CONTRIBUTIONS TO LEPIDOPTEROLOGY

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Few individuals in recent decades can match Hugh Avery Freeman's contributions to the study of Lepidoptera. Our current knowledge of Mexican hesperiid diversity is based on Freeman's groundbreaking research, as is our knowledge of the butterfly fauna of the lower Rio Grande Valley of Texas. Freeman also created what can be considered a sub-discipline out of the study of the Giant Skippers, or Megathymini. His early publications on the group generated much excitement among his colleagues, and provided the initial stimulus for decades of additional exploration and research. Freeman described 107 new species and subspecies of butterflies (including 4 new forms) and 5 new genera, and authored 111 scientific publications. His collections of Lepidoptera were extensive, and these were important and significant additions to various institutional collections as they were sold or donated. Extensive material from Freeman's collections can be found in the American Museum of Natural History, New York (AMNH), Carnegie Museum of Natural History, Pittsburgh (CMNH), United States National Museum, Washington D.C. (USNM), and Allyn Museum, Florida State University (AME in literature, now FSMC). Freeman was an active member of the Lepidopterists' Society, and was well known to all researchers of Hesperidae and *Catocala* (Noctuidae), as well as Texan Lepidopterists.

Hugh Avery Freeman was born on October 7th, 1912, in Conway, Faulkner Co., Arkansas. His father, George Allen Freeman, was a Methodist minister who grew up in Vermont. His mother, Stella Freeman, grew up on the Hope Hill Farm in Faulkner County, Arkansas, where Avery (as he was known to his family and friends) spent most of his childhood. George and Stella had two other children, Joy Bates Freeman and Moore Freeman, and adopted a third child out of a Methodist home, Dorothy Freeman. Avery attended North Little Rock High School, and graduated in the class of 1932.

Avery grew up on his parents' acreage, the Hope Hill Farm. This setting was rich in lepidopteran species, which caught Avery's attention. At age 15, after reading Gene Stratton-Porter's *A Girl of the Limberlost*, Lepidoptera became subjects of scientific interest. Between 1927 and 1930, Avery's interest in Lepidoptera

was general, although he paid special attention to the Sphingidae (no doubt due to Stratton-Porter's influence), which were the subject of his first entomological publication, an annotated list of the Sphingidae of Arkansas (ref. 1). Avery quickly became fascinated with small butterflies, especially the Lycaenidae, Riodinidae and Hesperidae, and by 1930, Avery's interest in Lepidoptera had become focused on the Hesperidae (but see refs. 26, 28, 32, 33 and 56). Early collecting efforts at the Hope Hill Farm proved to be important, providing new data on the distribution of various species in Arkansas (refs. 18, 33), and type material for two of Avery's new skipper taxa (*Polites verna sequoyah*, ref. 7; *Amblyscirtes linda*, ref. 8).

Avery received his B.A. in biology from Hendrix College (Conway, Arkansas) in June 1936 and he was elected to Phi Beta Kappa. He then moved to Dallas (Texas) to attend Southern Methodist University (SMU). There, he earned a M.S. in entomology in June 1938, and published a list of the Hesperidae of Dallas County in 1939 (ref. 2). Plans to pursue a Ph.D. in entomology were interrupted by the economic strains of the Depression. In 1938, Avery began teaching biology and chemistry at Lancaster High School (Lancaster, Texas) for \$90 a month. Avery found more than a job in Lancaster, and in 1939 married Erna Louise Morris, a native of Lancaster living with her parents at the time. Their happy marriage of 62 years lasted until Avery's passing on February 19th, 2002, and produced three children, Linda Louise Freeman (born 1940; now Linda Stafford), Julia Anne Freeman (born 1945; now Julia Matthews), and Avery Gilbert Freeman (born 1955). Avery was very proud of his family, and named new species and subspecies of skippers after each of his family members: *Amblyscirtes linda* (ref. 8), *Lerodea julia* (ref. 19), *Agathymus gilberti* (ref. 57), *Astraptes gilberti* (ref. 77), *Amblyscirtes erna* (ref. 8), *Megathymus yuccae louiseae* (ref. 52) and *Astraptes louiseae* (ref. 77). Louise was a very supportive wife, and spent much time working on Avery's Lepidoptera-related projects "behind the scenes." In addition to collecting specimens from the yard and elsewhere while Avery was teaching (she collected the allotype female of *Celaenorrhinus stallingsi*, ref. 21), Louise dispatched many of Avery's reared Megathymini, which would

emerge and expand their wings, almost invariably, while Avery was away teaching.

While Avery proved to be an excellent educator, his true passion remained in the study of Lepidoptera. In an effort to build his collection of Texas species, he sought a teaching position in west Texas, having mastered the butterfly fauna of the Dallas area. Between 1941 and 1944, Avery taught biology and chemistry at White Deer High School (White Deer, Carson County, Texas), spending his weekends and holidays collecting all over north and west Texas. During this period, Avery discovered several new taxa of Hesperidae in Texas (refs. 8, 9) and developed a very strong interest in the Megathymini (ref. 14). It was also during this time Avery developed a strong interest in the Neotropical Hesperidae, and largely because of this, sought a teaching position in the lower Rio Grande Valley of Texas in 1944.

From 1944 to 1948, Avery taught biology and coached track and football at the Pharr-San Jacinto-Alamo High School (Pharr, Texas). He spent most of his free moments collecting butterflies, especially skippers. During these four years of intensive collecting activities in the valley, Avery contributed a tremendous amount of new information on the butterfly fauna of the region, and reported over two-dozen butterfly species from the United States for the first time (refs. 6, 16, 17, 19, 20, 21, 22, 23, 25, 26, 29, and 32), some of which were new to science. During the period of Avery's collecting activities in the valley, large areas of native habitat remained, including some dense subtropical forest lining the Rio Grande river, where Avery found several species of shade-loving skipper species for new US records, and even saw (but could not collect) the only blue morpho (probably *Morpho peleides* Kollar) ever reported north of the Mexican border (ref. 44, also Stallings & Turner 1946). Indeed, since 1948, no single person has contributed such a wealth of new information on the butterflies of south Texas.

In 1948, Avery was offered a job at the Southern Methodist University, and the Freeman's moved back to the Dallas area. From 1948 to 1951, Avery worked as a biology instructor at SMU. From 1951 to 1954, Avery taught chemistry at Forest Avenue High School in Dallas, and from 1954 to his retirement in 1981, he taught biology and chemistry at Hillcrest High School in Dallas. He was honored as Teacher of the Year at Hillcrest in 1963. During this long teaching career, when not busy with family activities, Avery worked in the evenings, and on rainy weekends, writing up the results of his research on Lepidoptera for publication.

In 1943, Avery published his first paper on *Megathymus* Scudder (ref. 10), which was followed over

the next 23 years by 18 additional publications on the Megathymini, naming 3 genera, 14 species, 7 subspecies and one form. These publications laid the foundation upon which all subsequent studies on the Giant Skippers (or "Megs") have been based. The excitement generated in the community of North American lepidopterists by Avery's early publications on Megs cannot be overstated; lepidopterists were literally leaving their nets in the truck and going into the field with a shovel and knife (Remington 1961). Upon learning of Avery's techniques for collecting and rearing immatures, and reading about the various new species and subspecies he was describing from the southwestern United States and Mexico, the study of Giant Skippers became a serious interest of several lepidopterists, including (among others) Don B. Stallings and family, J. R. Turner and family, Charles L. Remington and family, C. F. Harbison, R. S. Wielgus and family, and Kilian Roever. By the time he started working with Megs, Avery had developed a close relationship with Don Stallings and J. R. Turner, of Caldwell, Kansas, as evidenced by the naming of his first two new *Megathymus* taxa, in 1943, after Don Stallings' son, Don B. (Dee) Stallings, Jr. (ref. 10). Indeed, one of the first new butterfly taxa described by Stallings and Turner, *Neonympha gemma freemani*, was named to honor Avery (Stallings & Turner 1947). While Avery never coauthored scientific papers with the Stallings and Turner clan, they clearly discussed Megs on a frequent basis and kept up a regular and cordial correspondence as evidenced by archived correspondence, at the CMNH. Avery is mentioned and gratefully acknowledged in essentially every paper published by Stallings and Turner and colleagues (see Huber (1999) for a nearly complete list of publications by D. Stallings and coauthors). Avery, the Stallings' and the Turners' described as separate species the various allopatric populations of *Megathymus* or (after 1959) *Agathymus* that they found on different *Agave* species, when coupled with morphological differences. In 1969, Avery published his last paper on Megs, an exhaustive review of the entire group, where a total of 48 species of Megs were recognized, in 5 genera; 32 of these were *Agathymus*, and 20 of these *Agathymus* species were residents of the United States (ref. 76). Shortly afterward, Avery donated his entire collection of Megs to the AMNH (Rindge 1970). In 1975, Roever treated the North American complex of *Agathymus* taxa as 10 geographically and ecologically variable species, and that arrangement has been generally followed since, despite little or no actual justification for the nomenclatural changes made. The question of relationships between these taxa requires a careful re-

examination, including a phylogenetic study using morphological and molecular character data.

Throughout Avery's career as a teacher from 1938 to 1981, he spent his summers collecting extensively over Arkansas, Texas, New Mexico, Arizona and Mexico (e.g., ref. 44). He made 34 collecting trips to Mexico, mostly funded by grants from the Carnegie Institute, United States National Science Foundation, American Philosophical Society and the National Geographic Society. During these travels, Avery amassed what is undoubtedly the largest and most complete and important single collection of Mexican Hesperidae ever assembled. He made frequent trips to the Hotel Covadonga, south of Ciudad Valles, San Luis Potosí, to play golf and collect butterflies around the golf course that was literally carved out of the jungle. These trips clearly had a lasting impressing on Avery, for he named a new skipper, *Poanes benito*, after Benito Reycondes, one of his favorite caddies at Hotel Covadonga (ref. 96), and named several other new species after various close friends in Ciudad Valles (refs. 77, 84, 93, 96). Avery published 27 papers dealing primarily with Mexican Hesperidae, in which he described 69 new species, one new subspecies, and two new genera. Between 1949 and about 1969, Avery was the only researcher seriously studying the Mexican fauna of Hesperidae. He purchased hundreds of specimens from Eduardo C. Welling, and named a new species, *Thoon wellingi*, after his long-time friend and fellow collector (ref. 74). During this period, Avery also acquired Mexican skipper specimens from various other individuals, naming new species after each of them, including Robert Wind, Peter Hubbell, Don Stallings, Tarsicio Escalante, Kent Wilson, and Wilbur McAlpine.

In 1980, Avery sent reprints of his papers on Mexican Hesperidae to Kikumaro Okano, of Mishima City, Japan. This act served as an introduction to the study of Mexican Hesperidae for Japanese readers, once Okano (1981, 1982) published summaries of Freeman's research and descriptions. Okano's 1981 paper included a listing of all Mexican skipper species known at that time, from literature reports, listing bibliographic citations and type localities for essentially all included species. Freeman's name appears on almost every page of this report. Okano's 1982 paper was dedicated almost entirely to Freeman's publications, as it reproduced (in English) the original descriptions of 61 of Avery's new skipper species described from Mexico, as well as copies of the illustrations of genitalia provided in Avery's original publications.

Avery was a charter member of The Lepidopterists' Society, and was a regional coordinator of the Annual Season Summary for 32 consecutive years, from 1951 to

1983 (Stanford 2001, 2002). No Season Summaries were published from 1953 to 1958, but an unpublished report for 1954 was found in Avery's files (archived at the CMNH), with reports by himself (from Texas), William Howe (from Kansas), Don B. Stallings (from Kansas and Texas), J. R. Turner (Texas), W. J. Reinthal (Texas) and Lowell Hulbirt (Texas). A copy of Avery's unpublished 1953 report may exist in C. L. Remington's files (records were contributed by William Howe and Edward Welling, at least); it is unknown if Avery prepared reports between 1955 and 1958. Avery contributed records to the Season Summaries every year the reports appeared between 1947 and 1989 (a total of 43 years), as well as during 1953 and 1954 (at least) when no Summaries appeared. He served on the editorial committee of the News from 1959 to at least 1977, was a member-at-large of the Executive Council from 1962-1964, was the Society's 1st Vice President in 1971, and Vice President in 1972 (Kendall 1977).

From an early age, Avery was a prolific correspondent. He was never bashful about seeking determinations on his collected material from experts, for example J. F. G. Clarke, Ernest L. Bell, Arthur W. Lindsey, R. C. Williams, W. H. Evans, E. Murray-Aaron and F. M. Brown for his early studies. Ernest Bell, of the AMNH, was an especially important mentor to Avery, a fact evident by the name Avery chose for the first undescribed species of skipper he discovered and named in 1941: *Amblyscirtes belli* (ref. 5). A large percentage of Avery's collections were built through specimen exchanges with his many friends and colleagues; indeed his collections were more diverse than most institutional collections. Some, but certainly not all, of the individuals who corresponded with Avery about Hesperidae, or provided specimens of Hesperidae for Avery's collections (either directly or indirectly) include the following: Arthur C. Allyn, Paul H. Arnaud, Jr., Andrew Atkins, George T. Austin, James Baker, David L. Bauer, Dean Berry, T. B. Blevins, James P. Brock, Auburn E. Brower, Otto Buchholz, John M. Burns, John V. Calhoun, Sergio Carmelo, Steven J. Cary, Franklin H. Chermock, F. E. Church, Dale Clark, W. Judson Coxey, Ken Davenport, Jack Dennis, Philip J. DeVries, E. A. Dodge, Julian P. Donahue, Cyril F. dos Passos, Malcom Douglas, John C. Downey, Joseph F. Doyle, III, Bastiaan M. Drees, T. M. Dunkle, James Donald Eff, Tarsicio Escalante, Clifford D. Ferris, R. J. Fitch, Don P. Frechin, Valerie H. & Albert C. Frederick, Alma Garcés, A. García, H. A. Gibbon, Carl W. Gottschalk, Nancy Greig, Lionel Paul Grey, John E. Hafernik, F. Haimbach, Charles F. Harbison, Chuck Harp, Victor Hellebuyck, E. Henao, John B. Heppner, Carlos C. Hoffmann, William H. Howe, H. A. Howland,

Peter Hubbell, Lowell Hulbirt, J. K. Jacob, Daniel H. Janzen, Peter M. Jump, John Kemner, Roy O. Kendall, R. Kergosien, H. L. King, Edward C. Knudson, J. A. Kusche, Richard A. Leussler, Jorge E. Llorente, Ralph W. Macy, John H. Masters, Bryant Mather, Rudi Mattoni, H. Elliot McClure, Nadine M. & William W. McGuire, R. M. McKenzie, Lee D. & Jacqueline Y. Miller, Arthur H. Moeck, Rudolph C. de Mordaigle, Herbert K. Morrison, Douglas D. Mullins, C. O. Neumann, Berthold Neumoegen, William W. Newcomb, Stanley S. Nicolay, Kikumaro Okano, William A. Palmer, Ricky L. Patterson, Otto C. Poling, Floyd W. & June D. Preston, Homer F. Price, Alan Probert, J. Puig, C. & O. Querci, Marco Rangel, George W. Rawson, Walfried J. Reinthal, Abraham Ramirez, Charles L. Remington, P. S. Remington, S. N. Rhodes, Frederick H. Rindge, Ronald Rockwell, Kilian Roeber, E. Romei, Frank Sala, Julian A. Salazar, Patrick J. Savage, James A. Scott, William E. Sieker, Arthur C. Sheppard, P. J. Sheppard, John A. Shuey, Ernest M. Shull, Henry Skinner, C. P. Slater, Annie T. Slosson, Jeffrey R. Slotten, Marion E. Smith, Michael J. Smith, Thomas U. Spalding, R. B. Srygley, Don B. Stallings, Ray E. Stanford, F. Steinbach, Stephen R. Steinhauser, J. W. Tilden, J. E. Turner, John R. Turner, A. Vázquez, M. L. Walton, Andrew D. Warren, Robert J. Warren, Eduardo C. Welling, Kent H. Wilson, Robert G. Wind and John Woodgate. Avery's complete correspondence files (including correspondence with many additional individuals) have been archived at the Carnegie Museum of Natural History, Pittsburgh, Pennsylvania.

Avery worked closely with Roy O. Kendall of San Antonio, Texas, for several years, researching the Papilionoidea and Hesperioidea of Texas. The two of them published a list of Texas butterflies together in 1963 (ref. 51), and exchanged much correspondence on the Texas fauna. Avery agreed to prepare genitalia drawings of all Texas Hesperidae for Roy Kendall's massive project on the butterflies of Texas, which were completed in 1980; however, these drawings have not yet been published.

After donating his collection of Mexican Hesperidae to the AMNH in March, 1981, and retiring from Hillcrest High School shortly after, Avery became impressed with the diversity of *Catocala* species he found attracted to a mercury vapor light in his back yard in Garland, and began the process of building a collection of North American *Catocala*. Avery amassed long series of *Catocala* specimens from his yard for exchange (collected at light and at bait), and supplemented this material with large series he was obtaining from John Kemner in Dripping Springs, Texas. During Avery's "*Catocala*-years", roughly 1982

through 1988, Avery corresponded with, and exchanged specimens with numerous individuals (in addition to many of those listed above), including, among others, David Baggett, Carlos R. Beutelspacher, Vernon A. Brou, Jr., Charles T. Bryson, Robert W. Cavanaugh, John M. Coffman, James P. Fitter, Mecky Furr, Lawrence F. Gall, Bonnie Gibbons, James E. Gillaspay, Richard M. Gilmore, David C. Hawks, F. W. Hedges, J. Richard Heitzman, Parker & Donna Henry, Katsumi Ishizuka, Joel M. Johnson, John W. Johnson, Samuel A. Johnson, John C. Jordison, Peter W. Kovarik, Ross Layberry, Ron H. Leuschner, Eric H. Metzler, Stephen Miller, Wayne A. Miller, James Muow, Kenneth Neil, Jim Oberfoell, Craig Odegard, Leo J. Paulissen, Robert W. Poole, C. Stephen Quelch, Eric L. Quinter, S. Roman, Richard C. Rosche, Theodore D. Sargent, Dale F. Schweitzer, Mack Shotts, Terry W. Taylor, Erich Walter, Ronald S. Wilkinson, Benjamin D. Williams and Michael Zappalorti. Through many exchanges (he even traded Hesperidae for *Catocala* specimens on several occasions), Avery amassed a nearly complete collection of North American *Catocala* species, and published one note on *Catocala* (ref. 111).

While Avery's passion with *Catocala* was intense, it was not permanent, since the relationship he formed with John Kemner would eventually lead him back into the study of Mexican skippers. After several years of collecting in North America, mostly Texas and Florida, Kemner started making collecting trips into Mexico, and by 1987, had located several very productive sites in Oaxaca State. At one of these sites, ca. 5 miles north of Oaxaca City on Hwy. 175, Kemner found an unusual suite of skippers that proved to be of major interest to Avery. Among this lot were several species of *Piruna* Evans, including two undescribed species. After reviewing this material, Avery "officially" returned to studying skippers, initiated a large project revising the genus *Piruna*, and started borrowing all the holotypes and other *Piruna* specimens that he could locate. A short time later, Avery donated his entire collection of *Catocala* to the AMNH. In 1990, Avery named the first of these two new species *Piruna kemneri* (ref. 106), after his good friend and colleague. This not only provided additional stimulation to fuel Kemner's collecting efforts, but also irreversibly cemented Avery's return to skipper study. While Avery only described a total of 4 new taxa discovered by Kemner, he initially identified and spread many other new skipper taxa discovered by Kemner before forwarding these on to his colleagues for subsequent description (e.g. Burns 1992b, 1994, Steinhauser 1991, 1996, Steinhauser & Warren 2002), though not all of these have yet been formally described. Avery was an inspiration to

Kemner, and Kemner was an inspiration to Avery—they made a perfect team. While Kemner was selling specimens to various collectors to cover the costs of his collecting activities, he never charged Avery a cent for all the skippers he gave him; to Kemner, obtaining species determinations and knowledge of his new discoveries was compensation enough. Through material donated to Avery by Kemner, Jim Brock, Michael J. Smith and Douglas D. Mullins, Avery also returned to the study of one of his long-time favorite genera, *Amblyscirtes* (refs. 5, 8, 84), and described two new taxa of *Amblyscirtes* initially discovered by Brock (refs. 109, 110).

Illegal collecting eventually caught up with Kemner, once the U.S. Fish and Wildlife Service learned that his Mexican material was being collected and sold without necessary permits. On August 16, 1991, Special Agents for the Fish and Wildlife Service arrived at Avery's home and confiscated all 1796 Mexican specimens collected by Kemner in Avery's possession. These specimens were subsequently deposited in the CMNH in April, 1996. This event ended the collaboration that Avery and Kemner had developed, and dealt a devastating blow to both of them, although they maintained a regular correspondence until Avery's passing.

For Avery, the loss of Kemner's collaboration was indeed discouraging, but he was still being inundated with skipper specimens for determination. From August 1989 until 1998, Avery determined large lots of specimens for the CMNH, at the request of Dr. John Rawlins, Curator of Invertebrates. Between August 1989 and January 1998, Avery determined over 7000 specimens of HesperIIDae for the CMNH, and in recognition of his contributions, he was appointed as Research Associate in 1991. Most specimens of Nearctic and Neotropical skippers in the CMNH bear Avery's determination label. The CMNH material kept Avery busy dissecting, determining, labeling, listing and writing, without having to leave Garland. Avery returned the last batch of specimens to the CMNH in 1998, when, due to failing health, he felt he was no longer able to work with the material.

In conclusion, Avery Freeman contributed to the study of Lepidoptera in every possible manner. He collected and reared scientific specimens now available to future generations in museums. Avery furthered the science by publishing new methods for collecting and rearing skippers. He wrote prolifically about new faunas and species. He also inspired a new generation of skipper workers through his work and correspondence. An active member of the Lepidopterists' Society, Avery embodied fully the enthusiasm of the amateur and the

careful work of the professional. He will be missed, but never forgotten for all his contributions.

COLLECTIONS

Megathyminae. Collection of 2353 specimens to AMNH before August 1970, see Rindge (1970).

Mexican HesperIIDae. Entire collection of several thousand specimens mailed to AMNH in March, arrived at AMNH in April, 1981; completely curated into AMNH collection by August 1981 (ref. 104). Material acquired after about 1987, mostly from John Kemner, deposited at the FSMC (at least 56 specimens), CMNH (roughly 1800 specimens deposited by April 1996) and USNM (at least 225 specimens, including several from north of Mexico).

North American HesperIIDae. Several thousand specimens to A. Warren in June 1998; the remaining several thousand to the CMNH in 2000.

Lycaenidae and Riodinidae. Donated 1453 specimens of Mexican Lycaenidae and Riodinidae to CMNH before November 1972, on several occasions: 1st and 2nd lots in August 1968, 3rd lot in September 1968, 4th lot in January 1970, 5th lot in December 1970, 6th lot in early 1972. Subsequently donated 2231 additional hairstreak specimens, including complete holdings of North American taxa, to the CMNH on December 1st, 1972. Lists of donated specimens were compiled by H. K. Clench for each lot and sent to Freeman; these are archived at the CMNH.

Catocala. Donated 2878 specimens to AMNH in November, 1990, entirely curated into AMNH collection by November 1992 (ref. 111).

Avery also donated various HesperIIDae specimens to Michigan State University (in November 1965), the USNM (at least 225 specimens on various occasions including April 1988, May 1988, September 1989, December 1989, September 1990, December 1990, February 1990, June 1991, January 1992, February 1992, July 1992) and various holotypes (as stated in their original descriptions), and other specimens to the FSMC. As noted in ref. 104, Freeman holotypes that were said to have been deposited in the USNM in ref. 77 are actually at the AMNH.

PATRONYMS

Neonympha gemma freemani Stallings & Turner, 1947. Canadian Ent. 78(7-8):134-137. TL: Pharr, [Hidalgo Co.], Texas. Holotype male, 28 October 1944, H. A. Freeman collector, in USNM. Currently placed in the genus *Cyllopsis* R. Felder, see Miller (1974).

Agathymus freemani Stallings & Turner, 1960. Ent. News 71(5):109-115. TL: near Bagdad, [Yavapai Co.], Arizona. Holotype female, 10 October 1957, J. R. Turner collector, in YPM. Currently considered a subspecies of *Agathymus baueri* (Stallings & Turner), see Roever (1975).

Vinius freemani L. Miller, 1970. J. Lepid. Soc. 24(2):120-124. TL: 2 mi. SE Coatzacoalcas, Veracruz, Mexico. Holotype male, 18 January 1966, H. K. Clench and L. D. Miller collectors, in CMNH. Currently placed in *Vinpetius* Austin, and considered a synonym of *V. tinga* (Evans), see Austin (1997).

Calephelis freemani McAlpine, 1971. J. Res. Lepid. 10(1):1-125. TL: Davis Mtns., about 12 mi. NW Alpine, St. Hwy. 118, Jeff Davis Co., Texas. Holotype male, H. A. Freeman collector, in USNM.

Mellana balsa freemani Steinhauser, 1974. Bull. Allyn Mus. 22:1-38. TL: Santa Tecla, El Salvador, 900m. Holotype male, 27 June 1972, S. R. & L. M. Steinhauser collectors, in FSMC. Currently placed in *Quasimellana* Burns, and considered a synonym of *Q. balsa* (Bell), see Burns (1994).

Dalla freemani A. Warren, 1997. Trop. Lepid. 8(1):35-37. TL: Olas de Moka, Dept. Solola, Guatemala. Holotype male, September

1808(?), ex colln. Geo. P. Engelhardt, in AMNH.

Freemania A. Warren, 2000. Boletín Científico, Mus. Hist. Nat., Univ. Caldas 5:138-153. Type species: *Freemania rawlini* A. Warren, 2000. Generic name preoccupied, see Warren (2001).

Freemania A. Warren, 2001. Proc. Ent. Soc. Wash. 103(4):1028-1029. Type species: *Freemania rawlini* A. Warren, 2000. Replacement name for *Freemania*.

Halotus jonaveriorum Burns 1992. J. Lepid. Soc. 46(3):182-194. TL: La Soledad - Buena Vista, 1525m., Sierra Madre del Sur, Oaxaca, Mexico. Holotype male, 12 April 1990, John Kemner collector, in USNM. Named for John Kemner and Avery Freeman.

ANNOTATED BIBLIOGRAPHY OF PUBLICATIONS BY HUGH AVERY FREEMAN

This bibliography includes all of Hugh Avery Freeman's entomological publications known to this author, listed chronologically. All publications have been personally examined. Two additional manuscripts have been drafted, that will be finished and coauthored by A. Warren; one is a taxonomic revision of the genus *Piruna*, the other describes new species of *Staphylus*.

1938. Notes on the Sphingidae (Lepidoptera) of Arkansas. Field and Lab. 6(2):33-43. {Apr 1938} [Survey from 1926 to 1937; distributional data by county; months of capture; larval food plants; adult nectar sources, behavior; *Herse cingulata*, *Protoparce sexta*, *P. quinquemaculatus*, *P. rustica*, *Chlaenogramma jasminearum*, *Dolba hylaeus*, *Ceratomia amyntor*, *C. undulosa*, *C. catalpae*, *Isoparce cupressi*, *Atreus plebeia*, *Sphinx chersis*, *S. gordius*, *Smerinthus jamaicensis*, *Paonias exaeca*, *P. myops*, *Cressonia juglandis*, *Pachysphinx modesta*, *Erinnyis ello*, *E. obscura*, *Aelops titan*, *Haemorrhagia thysbe*, *H. diffinis*, *Pholus satellita*, *P. achemon*, *P. fasciatus*, *Ampeloeca versicolor*, *A. myron*, *Darapsa pholus*, *Amphion nessus*, *Xylophanes tersa*, *Celerio lineata*]
1939. The Hesperidae of Dallas County, Texas. Field and Lab. 7(1):21-28. {Jan 1939} [Survey from September, 1936 to June, 1937; September, 1937 to April, 1938; distributional data; *Epargyreus tityrus*, *Goniurus proteus*, *Achalarus lyciades*, *Thorybes pylades*, *T. daunus*, *T. confusus*, *Urbanus syrichtus*, *U. tessellata*, *Pholisora catullus*, *P. hayhurstii*, *Erynnis brizo*, *E. persius*, *E. juvenalis*, *E. horatius*, *E. tristis*, *E. funeralis*, *Ancyloxypha numitor*, *Copaeodes aurantiaca*, *C. minima*, *Hylephila phyleus*, *Polites verna*, *P. themistocles*, *Atalopedes campestris*, *Catia otho*, *Atrytone logan*, *A. arogos*, *A. vestris*, *Poanes viator*, *P. zabulon*, *Amblyscirtes vialis*, *A. celia*, *A. comus*, *Lerema accius*, *Lerodea eufala*, *Calpodetes ethlius*, *Megathymus yuccae*; adult nectar sources]
1941. Hermaphroditism among the Hesperidae (Lepidoptera, Rhopalocera). Field and Lab. 9(1):27-28. {Jan 1941} [*Atalopedes campestris*, *Polites manataaquia*, *Pyrgus communis*]
1941. Distributional notes on *Atrytone dion alabamiae* Lindsey (Lepidoptera, Rhopalocera, Hesperidae). Field and Lab. 9(1):29. {Jan 1941} [(Mobile Co., Alabama; Chikasaw, Alabama); Dahl Swamp, Accomac, Virginia; Dismal Swamp, Virginia; North Little Rock, Arkansas]
1941. A new species of *Amblyscirtes* from Texas (Lepidoptera, Rhopalocera, Hesperidae). Ent. News. 52(2):50-51. {[21] Feb 1941} [*Amblyscirtes belli* n. sp. (TL: two miles west of Vickery, Dallas Co., Texas. Holotype male, H. A. Freeman collector, in AMNH)]
1941. *Lerodea tyrtaeus* (Ploetz), new to the United States (Lepidoptera, Rhopalocera, Hesperidae). Field and Lab. 9(2):45. {May 1941} [Recorded from one mile north of West Columbia, Brazoria Co., Texas]
1942. Notes on some North American Hesperidae with the description of a new race of *Polites verna* (Edwards) (Lepidoptera, Rhopalocera). Ent. News. 53(4):103-106. {[20] Apr 1942} [Distributional data; *Erynnis burgessi*, *E. baptisiae*, *Hesperia uncas*, *H. meskei*, *Polites verna sequoyah* n. ssp. (TL: Hope Hill Farm,

Faulkner Co., Arkansas. Holotype male, H. A. Freeman collector, in AMNH), *Atrytone dion alabamiae*, *A. dukesi*, *Amblyscirtes belli*, *Lerodea tripunctus* (confirmed from U.S. at Miami, Florida)]

8. 1943. Two new species of *Amblyscirtes* from Texas and Arkansas (Lepidoptera, Rhopalocera: Hesperidae). Ent. News. 54(1):14-20. {Jan [6 Feb], 1943} [*Amblyscirtes erna* n. sp. (TL: Palo Duro Canyon, Texas. Holotype male, 25 April 1942, H. A. Freeman collector, in AMNH), *A. linda* n. sp. (TL: Hope Hill Farm, Faulkner Co., Arkansas. Holotype male, 6 July 1942, H. A. Freeman collector, in AMNH)]

9. 1943. New Hesperioidea, with notes on some others from the United States (Lepidoptera, Rhopalocera). Ent. News. 54(3):72-77. {Mar [7 Apr], 1943} [Distributional data; *Thorybes pylades albosuffusa* n. form (TL: Fort Davis [Jeff Davis Co.], Texas. Holotype male, H. A. Freeman collector, in AMNH), *Erynnis persius persius*, *E. p. permigra*, *E. p. avinoffi*, *E. p. fredericki* n. ssp. (TL: near Lead, Spearfish Canyon, [Lawrence Co.], South Dakota. Holotype male, V. H. & A. C. Frederick collectors, in AMNH), *Amblyscirtes simius*, *M. yuccae alabamiae* n. ssp. (TL: Anniston, [Calhoun Co.], Alabama. Holotype male, 12 April 1937, M. E. Smith collector, in AMNH)]

10. 1943. Notes on and redescrptions of *Megathymus yuccae* (Boisduval & LeConte) and its subspecies (Lepidoptera, Rhopalocera, Hesperioidea). Ent. News. 54(9):211-217. {[11] Nov 1943} [Distributional data; *Megathymus yuccae yuccae* (TL restriction: South Carolina to the southern tip of Florida), *M. y. coloradensis*, *M. y. navajo*, *M. y. alabamiae*, *M. y. stallingsi* n. ssp. (TL: Caldwell [Sumner Co.], Kansas. Holotype male, emg. 11 April 1943, D. B. Stallings collector, in AMNH), *M. y. stallingsi*, form *dee*, n. form (TL: Caldwell [Sumner Co.], Kansas. Holotype female, emg. 12 April 1943, D. B. Stallings collector, in AMNH)]

11. 1944. A new form of *Hesperia metea* Scudder from Texas (Lepidoptera Hesperidae). Field and Lab. 12(1):20-22. {Jan 1944} [*Hesperia metea belfragei* n. form (TL: Cedar Hill, Dallas Co., Texas. Holotype male, H. A. Freeman collector, in AMNH)]

12. 1944. A new form of *Hesperia leonardus* (Harris) from the middle western United States (Lepidoptera, Rhopalocera, Hesperidae). Bull. Brooklyn Ent. Soc. 38(5):153-154. {14 Mar 1944} [*Hesperia leonardus stallingsi* n. form (TL: Blendon, Franklin Co., Ohio. Holotype male, 24 August 1935, G. W. Rawson collector, in AMNH)]

13. 1944. A new subspecies of *Polites themistocles* (Latreille) from British Columbia, Canada (Lepidoptera, Rhopalocera, Hesperioidea). Ent. News. 55(2):47-48. {Feb [17 Mar], 1944} [*Polites themistocles turneri* n. ssp. (TL: Jesmond, British Columbia. Holotype male, 9 July 1937, J. K. Jacob collector, in AMNH)]

14. 1944. Notes on the *streckeri* group of the genus *Megathymus* (Lepidoptera, Rhopalocera). Ent. News. 55(4):103-105. {Apr [3 May], 1944} [Distributional data; *Megathymus streckeri*, *M. texana* (= *leussleri*), *M. texana* form *albocincta*]

15. 1944. Further notes on the Hesperioidea of Dallas County, Texas. Field and Lab. 12(2):56-58. {Jun 1944} [Distributional data; *Urbanus dorantes*, *Cogia outis*, *Pyrgus communis albescens*, *Erynnis burgessi*, *E. baptisiae*, *E. martialis*, *F. propertius*, *Hesperia viridis*, *H. metea belfragei*, *H. meskei*, *Polites vibex brettoides*, *P. verna sequoyah*, *Wallengrenia otho egeremet*, *Atrytone logan lagus*, *A. dion alabamiae*, *A. ruricola* form *immaculatus*, *Amblyscirtes belli*, *Megathymus yuccae stallingsi*, *M. y. stallingsi* form *dee*, *M. texana*]

16. 1945. Notes on some North American Hesperidae, with two new records for the United States (Lepidoptera, Rhopalocera). Ent. News. 56(1):4-5. {Jan [16 Feb], 1945} [Distributional data; *Urbanus eurycles*, *Astrartes fulgurator*, *A. anaphus* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Lerodea tyrtaeus*, *Perichares phocion dolores* (first U.S. record from Pharr, Hidalgo Co., Texas)]

17. 1945. Notes on some Hesperidae, with new records for the United States (Lepidoptera, Rhopalocera). Ent. News. 56(4):102-104. {Apr [25 May], 1945} [Distributional data; *Aguna asander* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Astrartes hopfferi* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Spathilepia clonius* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Lerodea edata* (first U.S. records from Brownsville [Cameron Co.] and Pharr

[Hidalgo Co.], Texas), *Godmania malitiosa* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Perichares phocion dolores*]

18. 1945. The Hesperidae (Lepidoptera) of Arkansas. Field and Lab. 13(2):60-63. [Jul 1945] [Based on 19 years of collection and study; distributional data; *Proteides clarus*, *Urbanus proteus*, *Achalarus lyciades*, *Autochthon cellus*, *Thorybes bathyllus*, *T. confusus*, *T. pylades*, *Pyrgus syrichtus* form *montivagus*, *P. communis*, *Pholisora catullus*, *P. hayhurstii*, *Erynnis icelus*, *E. brizo*, *E. persius*, *E. baptisiae*, *E. martialis*, *E. juvenalis*, *E. funeralis*, *Ancyloxypha numitor*, *Copaedeodes aurantiaca*, *C. minima*, *Hesperia metea belfragei*, *H. meskei*, *H. leonardus stallingsi*, *Hylephila phyleus*, *Polites themistocles*, *P. manataqua*, *P. vibex*, *P. verna sequoyah*, *Wallengrenia otho*, *W. otho egeremet*, *Poanes hobomok*, *P. zabulon*, *Atrytone logan*, *A. dion alabamiae*, *A. ruricola*, *Lerema accius*, *Amblyscirtes vialis*, *A. nysa*, *A. linda*, *A. belli*, *Lerodea eufala*, *L. l'herminier*, *Calpodus ethlius*, *Panoyuina* [sic] *ocolo* [sic]]

19. 1945. A new species of *Lerodea* from Texas (Lepidoptera: Hesperidae). Ent. News. 56(8):203-205. [[19] Oct 1945] [*Lerodea julia* n. sp. (TL: Pharr [Hidalgo Co.], Texas. Holotype male, 15 October 1944, H. A. Freeman collector, in AMNH); male genitalia illustrated]

20. 1946. Notes on some skippers, with new records for the United States (Lepidoptera, Hesperidae). Canadian Ent. 77(11):201-203. [18 Apr 1946] [Distributional data; *Urbanus doryssus* (first U.S. record from Pharr [Hidalgo Co.], Texas), *U. auginus auginulus* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Aguna asander*, *Pellicia bromias* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Carrhenes canescens* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Celaenorrhinus fritzgartneri* (first U.S. record from the Pharr-San Jacinto-Alamo High School campus, just outside of Pharr [Hidalgo Co.], Texas), *Synapte malitiosa* (first U.S. record from Pharr [Hidalgo Co.], Texas)]

21. 1946. Two new species of skippers from North and Central America (Lepidoptera: Hesperidae). Ent. News. 57(8):185-187. [Oct [20 Dec], 1946] [*Celaenorrhinus stallingsi* n. sp. (TL: Monterey, N[uevo] L[eón], Mexico. Holotype male, 28 May 1941, D. B. Stallings collector, in YPM), *Calpodus evansi* n. sp. (TL: Pharr [Hidalgo Co.], Texas. Holotype male, 21 October 1944, H. A. Freeman collector, in AMNH); genitalia illustrations of males]

22. 1947. New skipper records for the United States. Ent. News. 58(7):184-186. [Jul [27 Oct], 1947] [*Aguna asander* form *panthius*, *Pellicia costimacula* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Gorgythion begga pyralina* (first U.S. record from Pharr [Hidalgo Co.], Texas); summary of native and stray skippers in the Rio Grande Valley]

23. 1948. Notes on some North American skippers, with the description of a new species from Kansas (Lepidoptera: Hesperidae). Ent. News. 59(8):203-206. [Oct [23 Dec], 1948] [Distributional data; *Urbanus undulatus* (first U.S. record from Pharr [Hidalgo Co.], Texas), *Hesperia metea licinus* (= *belfragei* n. syn.; = *horus* n. syn.), *Atrytone eulogius* (first U.S. record from Brownsville [Cameron Co.], Texas), *Atrytonopsis turneri* n. sp. (TL: Barber Co., Kansas. Holotype male, 5 May 1946, in AMNH), *Cobalus percosius* (first U.S. record from between Brownsville and Southmost [Cameron Co.], Texas)]

24. 1949. Notes on some tropical American skippers (Lepidoptera, Rhopalocera, Hesperidae). Field and Lab. 17(3):75-81. [Jun 1949] [Distributional data, Texas, Mexico, Central America; *Urbanus doryssus*, *Chioides zilpa*, *Astraptus anaphus*, *Proteides mercurius*, *Cabares potrillo*, *Cogia calchas*, *Spathilepia clontus*, *Grais stigmaticus*, *Timochares ruptifasciatus*, *Pyrgus domicella*, *Pholisora mazans*, *Chiomara asychis*, *Calpodus sylvicola*, *C. nyctelius*, *C. evansi*, *Lerodea edata*]

25. 1949. A summary of new butterflies from Texas. Texas J. Sci. 1(3):40-41. [30 Sep 1949] [New records for North America recently found in Texas: *Papilio lycophron pallas*, *Heliconius petiveranus*, *Biblis hyperia aganisa*, *Cyclogramma asteria*, *Adelpha fessonia*, *Chlorippe paeon*, *Apodemia walkeri*, *Emesis emesia*, *Thecla bazochii*, *T. cestri*, *Strymon jojoa*, *S. spurina*, *Urbanus doryssus*, *U. undulatus*, *U. auginus auginulus*, *Aguna asander*, *A. asander* f. *panthius*, *Astraptus anaphus*, *A. hopfferi*, *Pellicia bromias*, *P. costimacula*,

Spathilepia clontus, *Celaenorrhinus fritzgartneri*, *Carrhenes canescens*, *Gorgythion begga pyralina*, *Atrytone eulogius*, *Cobalus percosius*, *Lerodea tyrtaeus*, *L. edata*, *Synapte malitiosa*, *Perichares phocion dolores*; New species and subspecies from Texas: *Euptychia gemma freemani*, *Asterocampa clyton louisia*, *Celaenorrhinus stallingsi*, *Thorybes pylades albosuffusa*, *Lerodea julia*, *Amblyscirtes belli*, *A. erna*, *Calpodus evansi*, *Megathymus yuccae stallingsi*]

26. 1950. A new species of hairstreak and new records for the United States (Lepidoptera, Rhopalocera, Lycaenidae). Field and Lab. 18(1):12-15. [2 Jan 1950] [*Strymon buchholzi* n. sp. (TL: Pharr [Hidalgo Co.], Texas. Holotype male, 24 November 1946, H. A. Freeman collector, in AMNH); distributional data; *Strymon zebina* (first U.S. report from Pharr [Hidalgo Co.], Texas), *S. rufofusca* (first U.S. report from eleven miles south of Pharr [Hidalgo Co.], Texas), *S. cyphara* (first U.S. report from eleven miles south of Pharr [Hidalgo Co.], Texas), *S. echion* (first U.S. report from eleven miles south of Pharr [Hidalgo Co.], Texas), *Thecla facuna* (first U.S. report from near Hidalgo [Hidalgo Co.], Texas); adult nectar sources]

27. 1950. Further observations on *Calpodus evansi* Freeman (Lepidoptera, Rhopalocera, Hesperidae). Field and Lab. 18(1):15-17. [2 Jan 1950] [Distributional notes; photographs of holotype male]

28. 1950. The distribution and flower preferences of the Theclinae of Texas (Lepidoptera, Rhopalocera, Lycaenidae). Field and Lab. 18(2):65-73. [3 Apr 1950] [Survey period of 8 years; phenological and geographical distributions; *Athides halesus corcorani* form *estesi*, *Strymon maesites telea*, *S. simaethis sarita*, *S. pastor*, *S. zebina*, *S. spurina*, *S. jojoa*, *S. cyphara*, *S. cecrops*, *S. beon*, *S. echion*, *S. clytie*, *S. azia*, *S. rufofusca*, *S. columella istapa*, *S. laceyi*, *S. buchholzi*, *S. melinus*, *S. melinus pudica*, *S. melinus franki*, *S. ontario*, *S. ontario autolytus*, *S. polingi*, *S. alcestis*, *S. alcestis osleri*, *S. titus watsoni*, *S. edwardsii*, *S. falacer*, *Mitoura siva* (first report from Texas), *M. xami*, *M. damon castalis*, *Incisalia irus*, *I. hadros*, *I. henrici solatus*, *I. henrici turneri*, *Thecla bazochii*, *T. cestri*, *T. facuna*]

29. 1950. The distribution of *Wallengrenia otho* (Abbot & Smith) and its subspecies in the United States (Lepidoptera, Rhopalocera, Hesperidae). Field and Lab. 18(2):78. [3 Apr 1950] [*Wallengrenia otho otho*, *W. otho egeremet*, *W. otho curassavica* (first U.S. records from "Del Rio, through Laredo on down to Brownsville, Texas, along the Rio Grande River;" common around Pharr, Hidalgo Co.)]

30. 1950. Notes on *Megathymus*, with description of a new species (Lepidoptera, Rhopalocera, Megathymidae). Field and Lab. 18(4):144-146. [11 Dec 1950] [*Megathymus neumogeni* (= *aryxna*, = *drucei*), *M. evansi* n. sp. (TL: Ramsey Canyon, Cochise Co., Arizona. Holotype male, 11 September 1950, H. A. Freeman collector, in AMNH)]

31. 1951. Notes on the Agave feeders of the genus *Megathymus* (Lepidoptera, Rhopalocera, Megathymidae). Field and Lab. 19(1):26-32. [18 Jan 1951] [Larval food plants, descriptions of immatures, larval behavior and habits, female oviposition behavior; *Megathymus neumogeni*, *M. evansi*, *M. polingi*, *M. stephensi*, *M. neumogeni*, *M. mariae*, *M. smithi*]

32. 1951. Distributional notes on *Papilio palamedes* Drury and its subspecies *leontia* [sic] R.&J. (Lepidoptera, Rhopalocera, Papilionidae). Field and Lab. 19(1):32. [18 Jan 1951] [Arkansas, Texas; *P. palamedes*, *P. palamedes leontia* [sic] (first U.S. record from Rockport, [Aransas Co.], Texas)]

33. 1951. Distributional notes on the Theclinae of Arkansas. Field and Lab. 19(1):36-39. [18 Jan 1951] [Survey period of 24 years; taxonomic and biological notes; *Athides halesus*, *Strymon cecrops*, *S. m-album*, *S. melinus*, *S. ontario*, *S. titus mopsus*, *S. edwardsii*, *S. falacer*, *S. liparops strigosa*, *Mitoura damon*, *Incisalia irus*, *I. nippon*]

34. 1951. Notes on the genus *Yvretta* Hemming with a new record for the United States (Lepidoptera, Rhopalocera, Hesperidae). Field and Lab. 19(1):45-46. [18 Jan 1951] [Distributional data; key to adults; *Yvretta citrus* (first U.S. report from near Fort Davis [Jeff Davis Co.], Texas), *Y. rhesus* (= *axius*, = *subreticulata*), *Y. carus*]

35. 1951. New skipper records for Mexico (Lepidoptera, Rhopalocera, Hesperidae). Field and Lab. 19(1):46-48. [18 Jan 1951] [*Thorybes bathyllus* (from southeast of Monterey, N[uevo] L[eón]), *Heliopetes sublinea*, *Atrytone ruricola metacommet* form

immaculatus (from Monterrey, N[uevo] L[eón]), *Amblyscirtes celia* (from Monterrey, N[uevo] L[eón])]

36. 1951. Ecological and systematic study of the Hesperioidea of Texas (Lepidoptera, Rhopalocera, Hesperioidea). Southern Methodist University Studies 6:1-67. [1951] [study period from 1936 to 1949; distributional data; adult habits and nectar sources; keys to adults; *Apyrothrix araxes arizonae*, *Phocides lilea*, *P. urania*, *Nascus euribates*, *Polygonus lividus arizonensis*, *Aguna asander*, *A. asander* form *panthius*, *Proteides clarus*, *P. mercurius*, *Urbanus proteus*, *U. dorantes*, *U. eurycles*, *U. simplicius*, *U. undulatus*, *U. doryssus*, *U. auginus*, *U. auginus*, *Chioidea albifasciatus*, *C. zilpa*, *Codatractus alcaeus* (first U.S. record from the Davis Mountains, Texas), *C. melon arizonensis*, *Astraptus fuligator*, *A. anaphus*, *A. hopfferi*, *Zestusa dorus*, *Achalarus lyciades*, *A. casica*, *A. coyote*, *Autochthon cellus*, *Thorybes bathyllus*, *T. confusus*, *T. pylades*, *T. pylades albosuffusa*, *T. drusius*, *Cogia calchas*, *C. outis*, *C. hippalus*, *Cabares potrillo*, *Spathilepia clonius*, *Pellicia bromias*, *P. costimacula*, *Grais stigmaticus*, *Carrhenes canescens*, *Timochares ruptifasciata*, *Celaenorrhinus fritzgaertneri*, *C. stallingsi*, *Achlyodes thraso*, *Xenophanes tryxus*, *Chiomara asychis*, *Gorgythion begga pyralina*, *Pyrgus philetas*, *P. syrichtus*, *P. communis*, *P. communis albescens*, *P. domicella*, *Helioptes laviana*, *H. macaira*, *Antigonus evansi*, *A. pulverulenta*, *Celotes nessus*, *Pholisora catullus*, *P. mejicanus*, *P. ceos*, *P. hayhurstii*, *P. mazans*, *P. alpheus*, *Erynnis brizo*, *E. burgessi*, *E. gesta*, *E. persius*, *E. baptisiae*, *E. juvenalis*, *E. meridianus*, *E. horatius*, *E. funeralis*, *E. tristis*, *E. scudderii*, *Oarisma edwardsii*, *Adopaeoides simplex*, *Ancyloxypha numitor*, *A. arene*, *Copaoides aurantiaca*, *C. minima*, *Yoreta carus*, *Hylephila phyleus*, *Hesperia unica*, *Hesperia metea licinus*, *H. woodgatei*, *H. viridis*, *H. pahaska williamsi*, *H. meskei*, *H. attalus*, *Atalopedes campestris*, *Ochlodes morrisoni*, *Polites themistocles*, *P. vibex brettoides*, *P. vibex praeceps*, *P. verna sequoyah*, *Wallengrenia otho*, *W. otho egeremet*, *Poanes viator*, *P. hobomok*, *P. zabulon*, *Atrytone arogos iowa*, *A. logan*, *A. logan lagus*, *A. eulogius*, *A. dion alabamiae*, *A. ruricola metacommet*, *A. r. metacommet* form *immaculatus*, *Atrytonopsis vierecki*, *A. python margarita*, *A. edwardsii*, *A. pittacus*, *Cobalus percocius*, *Lerema accius*, *Amblyscirtes vialis*, *A. alternata*, *A. belli*, *A. celia*, *A. nysa*, *A. nereus*, *A. eos*, *A. aenus*, *A. erna*, *A. texanae*, *A. osleri*, *A. simius*, *A. phylace*, *Lerodea eufala*, *L. edata*, *L. tyrtaeus*, *L. l'hermenier*, *L. julia*, *Synapte malitiosa*, *Thespieus macareus* (reported from San Antonio [Bexar Co.], Texas), *Calpodus ethlius*, *C. evansi*, *C. sylvicola*, *C. ocola*, *Panoquina panoquinoides*, *P. nyctelius*, *Perichares phocion dolores*, *Megathymus yuccae stallingsi*, *M. texana*, *M. texana* form *albocincta*, *M. mariae*, *M. stephensi*, *M. smithi*]
37. 1952. Notes on *Megathymus yuccae* (Boisduval & LeConte), with description of a new subspecies (Lepidoptera, Rhopalocera, Megathymidae). Field and Lab. 20(1):29-33 [Jan [29 Feb] 1952] [Distributional data; larval food plants; *Megathymus yuccae* (= *alabamiae* n. syn.); *yuccae* neotype designation (TL: Aiken Co., South Carolina. 7 April 1951, H. W. Eustis collector, in AMNH), *M. y. buchholzi* n. ssp. (TL: Jupiter [Palm Beach Co.], Florida. Holotype male, 13 March 1947, O. Buchholz collector, in AMNH), comparison with *M. y. yuccae*]
38. 1952. 4. Great Plains - Texas and eastern plains of Rocky Mts. states to Saskatchewan and Manitoba. Pp. 95-97 in: The field season summary of North American Lepidoptera for 1951. Lepid. News. 5(8):81-110. [1951 [15 Apr 1952]] [Distributional data]
39. 1952. Two new species of *Megathymus* from Texas and Mexico (Lepidoptera, Rhopalocera, Megathymidae). Amer. Mus. Novit. 1593:1-9. [29 Oct 1952] [*Megathymus chisosensis* n. sp. (TL: Chisos Basin, Chisos Mountains, Texas. Holotype male, emg. 22 September 1951, H. A. Freeman collector, in AMNH), *M. hoffmanni* n. sp. (TL: Valle de Mexico. Holotype female, October 1916, C. C. Hoffmann collector, in AMNH); photographs of types; male and female genitalia illustrations]
40. 1953. 4. Great Plains - Texas and eastern plains of Rocky Mountain states to Saskatchewan and Manitoba. Pp. 90-93 in: The field season summary of North American Lepidoptera for 1952. Lepid. News. 7(3/4):66-118. [16 Nov 1953] [Distributional data]
41. 1955. Four new species of *Megathymus* (Lepidoptera,

Rhopalocera, Megathymidae). Amer. Mus. Novit. 1711:1-20. [11 Mar 1955] [Larval food plants; *Megathymus harrisi* n. sp. (TL: Stone Mountain [DeKalb Co.], Georgia. Holotype male, 17 July 1953, L. Harris, Jr. collector, in AMNH), *M. belli* n. sp. (TL: La Bequilla, Durango, Mexico. Holotype male, 29 July 1902, Batty collector, in AMNH), *M. mcalpinei* n. sp. (TL: 5.1 miles north of Marathon [Brewster Co.], Texas. Holotype male, emg. 26 September 1953, H. A. Freeman collector, in AMNH), *M. smithi*, *M. maculosus* n. sp. (TL: Kingsville, [Kleberg Co.], Texas. Holotype male, emg. 21 September 1952, H. A. Freeman collector, in AMNH); photographs of types; male and female genitalia illustrations]

42. 1956. A new species of *Hesperia* from California (Hesperiidae). Lepid. News. 9(6):196-198. [16 Apr 1956] [*Hesperia tildeni* n. sp. (TL: Cherry Flat Reservoir, Santa Clara Co., California. Holotype male, 27 August 1949, J. W. Tilden collector, in AMNH); photographs of types; male genitalia illustration]

43. 1959. A revision of the genera of the Megathymidae, with the description of three new genera. Lepid. News. 12(3/4):81-92. [26 Jan 1959] [*Aegiale* (= *Teria*, = *Acentrocne*), *Agathymus* n. gen. (TS: *Megathymus neumogeni*), *Turnerina* n. gen. (TS: *Megathymus hazelae*), *Megathymus*, *Stallingsia* n. gen. (TS: *Megathymus maculosus*); keys to genera; illustrations of antennae and tarsi; bibliography of the Megathymidae]

44. 1960. Butterfly collecting in Texas and New Mexico. J. Lepid. Soc. 13(2):89-93. [12 Feb 1960] [East Texas (Tyler State Park), central Texas (Buckner Blvd., Dallas; Lancaster, 10 miles south of Dallas), Pharr area (along Rio Grande River; La Reforma ranch north of Hidalgo; six miles north of McAllen), southwestern Texas (Fort Davis; Mt. Locke), Texas panhandle (Palo Duro Canyon; Gray's ranch north of Skellytown), New Mexico (Canadian River south of Tucumcari; Raton; between Rodeo and Lordsburg; Carlsbad; Santa Fe; Albuquerque; Folsom; Ft. Wingate; Zuni Mountains; Silver City; Santa Rita; Gallup)]

45. 1960. 3. Zones III and IV: Rocky Mountains and Great Plains. Pp. 6-8 in: Season's summary for 1959. News Lepid. Soc. 1960(3):1-17. [15 Apr 1960] [Distributional data]

46. 1960. Notes on *Agathymus* in Texas, and the description of a new species from Mexico (Megathymidae). J. Lepid. Soc. 14(1):58-62. [15 Dec 1960] [Larval food plants; distributional data; *Agathymus estelleae* (first U.S. records), *A. mariae*, *Agathymus fieldi* n. sp. (TL: Guadalajara, Mexico, Jalisco Highway 15, Kilometer 724, 4400'. Holotype female, emg. 30 September 1957, Stallings and Turner collectors, in AMNH); photographs of types, cremaster, male and female genitalia]

47. 1961. Zone IV: Great Plains - Canada to Texas in the Plains Region. Pp. 6-7 in: Season's summary, 1960. News Lepid. Soc. 1961(4):1-13. [1 Jun 1961] [Distributional data]

48. 1962. Zone IV: Great Plains - Canada to Texas in the Plains Region. Pp. 6-7 in: Season's summary, 1961. News Lepid. Soc. 1962(3):1-14. [15 Apr 1962] [Distributional data]

49. 1962. A new species of *Agathymus* from Texas (Lepidoptera, Rhopalocera, Megathymidae). Amer. Mus. Novit. 2097:1-8. [27 Jun 1962] [Larval foodplants; *Agathymus diabloensis* n. sp. (TL: 5 miles west of Victoria [sic] Canyon, Diablo Mountains, Hudspeth Co., Texas. Holotype female, emg. 13 September 1960, H. A. Freeman collector, in AMNH), photographs of types; illustrations of male and female genitalia, cremaster]

50. 1963. Zone IV: Great Plains - Canada to Texas in the Plains Region. Pp. 6-7 in: Summary, 1962 season. News Lepid. Soc. 1963(4):1-15. [1 Jun 1963] [Distributional data]

51. 1963. The butterflies and skippers of Texas, a tentative list. (with R. O. Kendall, senior author). Authors, San Antonio and Garland, Texas. 5pp. [1 Jul 1963] [distributional data, months of occurrence; list of 326 species plus dubious species; map; the publication of this list was supported by the Rob and Bessie Welder Wildlife Foundation, Sinton, Texas, an organization that has elsewhere been cited as the publisher of the list.]

52. 1963. *Megathymus yuccae* in Texas, with the description of two new subspecies. J. Lepid. Soc. 17(2):89-99. [8 Nov 1963] [Distributional data; *Megathymus yuccae reinthali* n. ssp. (TL: two

miles west of Ben Wheeler, Van Zandt Co., Texas. Holotype female, emg. 28 March 1961, H. A. Freeman collector, in AMNH), *M. y. coloradensis*, *M. y. stallingsi*, *M. y. louiseae* n. ssp. (TL: 16 miles north of Del Rio [Val Verde Co.], Texas. Holotype female, emg. 5 May 1960, H. A. Freeman collector, in AMNH), *M. y. wilsonorum*; photographs of types; keys to adults]

53. 1963. Type localities of the Megathymidae. J. Res. Lepid. 2(2):137-141. [Sep [30 Dec], 1963] [References; larval food plants; soil pH; *Aegiale hesperiaris*, *Agathymus neumogeni*, *A. carlsbadensis*, *A. florenceae*, *A. judithae*, *A. diabloensis*, *A. mcalpinei*, *A. chisosensis*, *A. juliae*, *A. hoffmanni*, *A. evansi*, *A. belli*, *A. aryxna*, *A. baueri*, *A. freemani*, *A. fieldi*, *A. mariae*, *A. micheneri*, *A. stephensi*, *A. comstocki*, *A. remingtoni*, *A. estelleae*, *A. polingi*, *A. alliae*, *A. indecisa*, *A. rethon*, *Turnerina mejicanus*, *T. hazelae*, *Megathymus yuccae yuccae*, *M. y. buchholzi*, *M. y. stallingsi*, *M. y. wilsonorum*, *M. y. coloradensis*, *M. y. navajo*, *M. y. arizonae*, *M. y. martini*, *M. y. browni*, *M. y. cofaqui*, *M. harrisi*, *M. streckeri*, *M. texanus texanus*, *M. t. leussleri*, *M. ursus*, *M. violae*, *M. beulahae*, *Stallingsia smithi*, *S. maculosus*; some type localities restricted]

54. 1964. The effects of pH on the distribution of the Megathymidae. J. Res. Lepid. 3(1):1-4. [Mar [9 May] 1964] [*Agathymus mariae*, *A. estelleae*, *A. florenceae*, *A. carlsbadensis*, *A. judithae*, *A. diabloensis*, *A. mcalpinei*, *A. chisosensis*, *A. aryxna*, *A. polingi*, *A. remingtoni*, *A. micheneri*, *Megathymus yuccae stallingsi*, *M. y. reinthali*, *M. y. wilsonorum*, *M. y. louiseae*, *M. y. reubeni*, *M. texanus*, *M. violae*, *M. ursus*, *Aegiale hesperiaris*]

55. 1964. Zone IV: Great Plains - Canada to Texas in the Plains Region. Pp. 7-9 in: North American season summary for 1963. News Lepid. Soc. 1964 (4):3-17. [1 Jun 1964] [Distributional data]

56. 1964. A new species of *Apodemia* from Texas (Riodinidae). J. Lepid. Soc. 18(2):75-77. [28 Aug 1964] [*Apodemia chisosensis* n. sp. (TL: Chisos Mountains, 5400', [Brewster Co.], Texas. Holotype male, 3 August 1962, H. A. Freeman collector, in AMNH); photographs of types; illustrations of male genitalia]

57. 1964. Four new species of *Agathymus* from Texas (Megathymidae). J. Lepid. Soc. 18(3):171-185. [2 Nov 1964] [Distributional data; larval food plants; soil pH; *Agathymus chinatiensis* n. sp. (TL: 2.7 miles south of Shafter [Presidio Co.], Texas. Holotype female, emg. 5 October 1960, H. A. Freeman collector, in AMNH), *A. lajitaensis* n. sp. (TL: 10 miles west of Lajita [sic] [Presidio Co.], Texas. Holotype female, emg. 2 October 1961, H. A. Freeman collector, in AMNH), *A. gilberti* n. sp. (TL: 14 miles north of Bracketville [sic] [Kinney Co.], Texas. Holotype female, emg. 22 October 1961, H. A. Freeman collector, in AMNH), *A. rindgei* n. sp. (TL: 14 miles north of Bracketville [sic] [Kinney Co.], Texas. Holotype female, emg. 23 October 1961, H. A. Freeman collector, in AMNH); photographs of types; illustrations of male and female genitalia, and cremasters]

58. 1965. Larval habits of *Agathymus mariae* (B. & B.). J. Res. Lepid. 3(3):145-147. [Sep 1964 [14 Apr 1965]] [Larval food plants, behavior, pupation]

59. 1965. Zone IV: Great Plains - Canada to Texas in [sic] the Plains Region. Pp. 7-9 in: North American season summary for 1964. News Lepid. Soc. 1965 (3):2-14. [15 Apr 1965] [Distributional data]

60. 1965. Two new subspecies of *Megathymus yuccae* (Bdv. & LeC.) from Texas. J. Lepid. Soc. 19(2):83-90. [15 Jul 1965] [*Megathymus yuccae kendalli* n. ssp. (TL: San Antonio, Bexar Co., Texas. Holotype female, emg. 12 March 1957, H. A. Freeman collector, in AMNH), *M. y. winkensis* n. ssp. (TL: Wink, Winkler Co., Texas. Holotype female, emg. 16 March 1964, H. A. Freeman collector, in AMNH); photographs of types]

61. 1966. Zone IV: Great Plains. Canada to Texas in the Plains Region. P. 7 in: North American annual summary for 1965. News Lepid. Soc. 1966 (3):4-12. [15 Apr 1966] [Distributional data]

62. 1966. A new species of *Agathymus* from Texas (Megathymidae). J. Lepid. Soc. 20(3):181-185. [25 Aug 1966] [*Agathymus valverdiensis* n. sp. (TL: 28 miles north of Del Rio, Val Verde Co., Texas. Holotype female, emg. 16 September 1963, H. A. Freeman collector, in AMNH); photographs of types; illustrations of male and female genitalia, cremaster; larval biology and food plants]

63. 1966. New Hesperiid records for Mexico. J. Lepid. Soc. 20(4):226-228. [30 Nov 1966] [Distributional data; *Elbella dulcinea* n. stat. (from Sierra Blanca and Presidio, Veracruz), *E. patrobas* (from Catemaco, Veracruz and Chimalapa, Oaxaca), *Urbanus esna* (from Catemaco, Veracruz), *Astraptus colossus* (from Paraje Nuevo, Veracruz and Chimalapa, Oaxaca), *Damas clavus* (from Catemaco, Veracruz), *Panoquina evansi* (from Acahuizolita, Guerrero and Catemaco, Veracruz), *Aides aegita* (from Catemaco, Veracruz), *Xeniades orchamus* (from Mante, Tamaulipas), *Saliana antonius* (from Valles, San Luis Potosí)]

64. 1967. New skipper records for Mexico. J. Res. Lepid. 5(1):27-28. [1 Mar 1966 [5 Apr 1967]] [Distributional data; *Astraptus helen* (from Paraje Nuevo, Veracruz), *Cogia mala* (from Acahuizolita, Guerrero and north of Tehuacán, Puebla), *Ouleus cyrta* (from Sta. Rosa, Comitán, Chiapas), *Carystoides lila* (from Tamazunchale, San Luis Potosí)]

65. 1967. Zone IV: Great Plains. Canada to Texas in the Plains Region. Pp. 8-9 in: North American annual summary for 1966. News Lepid. Soc. 1967 (3):4-17. [15 Apr 1967] [Distributional data]

66. 1967. Three new species of Hesperiidae from Mexico. J. Lepid. Soc. 21(2):115-119. [26 May 1967] [*Astraptus escalantei* n. sp. (TL: Ocozingo [sic], Chiapas, Mexico. Holotype male, August 1948, T. Escalante collector, in AMNH), *A. catemacoensis* n. sp. (TL: Catemaco, Veracruz, Mexico. Holotype male, September 1964, T. Escalante collector, in AMNH), *Euphyes donahuei* n. sp. (TL: 4 miles east of San Blas, Nayarit, Mexico. Holotype male, 17 July 1963, J. P. Donahue collector, in AMNH); photographs of adults; male genitalia illustrations]

67. 1967. On the status of *Heliopetes sublinea* (Hesperiidae). J. Lepid. Soc. 21(3):205-206. [21 Aug 1967] [Distributional data; Tamaulipas, Nuevo León, San Luis Potosí, Mexico]

68. 1967. Remarks on the genus *Zera* in Mexico with a new record. J. Res. Lepid. 5(3):181-184. [Sep 1966 [Sep 1967]] [Distributional data; *Zera nolckeni*, *Z. hosta* (first Mexican record from Sta. Rosa, Comitán, Chiapas), *Z. hyacinthinus*, *Z. tetrastigma*, *Z. eboneus*; key to adults]

69. 1967. *Polythrix octomaculata*, not *procerus*, in Texas (Hesperiidae). J. Lepid. Soc. 21(4):278. [28 Nov 1967] [Corrects previous records of *Urbanus auginus* *auginulus* and *Polythrix procerus* to *P. octomaculata*]

70. 1967. Speciation in the *Agathymus* (Megathymidae). J. Res. Lepid. 5(4):209-214. [Dec 1966 [29 Nov 1967]] [Discussion of the *Agathymus neumogeni*, *mariae*, and *remingtoni* complexes of species, *A. hoffmanni*, *A. aryxna*, *Aegiale hesperiaris*; larval food plants and habits]

71. 1968. Zone IV: Great Plains, Canada to Texas in the Plains Region. Pp. 11-12 in: North American annual summary for 1967. News Lepid. Soc. 1968 (3):6-19. [15 Apr 1968] [Distributional data]

72. 1968. New records, and notes on the status of some Hesperiidae from Mexico. J. Res. Lepid. 6(1):59-64. [Mar 1967 [Sep 1968]] [*Bolla cyclops* (from Sta. Rosa, Comitán, Chiapas; suggests *sonda* is a separate species from *cyclops*), *Piruna cyclosticta* (confirmation of species-status), *Dalla dividuum* (confirmation of species-status), *Mellana mulleri* (confirmation of species-status), *M. fieldi* (from Sta. Rosa, Comitán, Chiapas)]

73. 1969. *Polyctor polyctor* (Prittwitz) in Mexico (Hesperiidae). J. Res. Lepid. 6(3):195-196. [Sep 1967 [Dec 1968/Jan 1969]] [from Acahuizolita, Guerrero; all other records from Mexico refer to *P. cleta*, a separate species]

74. 1969. New species and records of Hesperiidae from Mexico (Lepidoptera). J. New York Ent. Soc. 76(4):267-277. [Dec 1968 [14 Feb 1969]] [*Urbanus hubbellus* n. sp. (TL: Sinaloa, Sinaloa, Mexico. Holotype male, March-April 1964, P. Hubbell collector, in AMNH), *Astraptus talhybius* (from Soyolapan el Bajo, nr. Comaltepec, Oaxaca), *Potamanaxas unifasciata* (from Chiltepec, Oaxaca), *Cycloglypha tisis* (from Puerto Eligio, nr. Comaltepec, Oaxaca), *Campopleura oaxaca* n. sp. (TL: Soyolapan el Bajo, nr. Comaltepec, Oaxaca, Mexico. Holotype male, 13 August 1961, E. C. Welling collector, in AMNH), *Aecas aecae* (from Chiltepec, and Yelta, nr. Valle Nacional, Oaxaca), *Nastra l'herminieri* [sic] (from Colima, Colima),

Cymaenes laureolus (from Coatepec and Fortín de los Flores, Veracruz, and Xicotepéc de Juárez, Puebla), *Thoon wellingi* n. sp. (TL: Yelta, nr. Valle Nacional, Oaxaca, Mexico. Holotype male, 13 September 1961, E. C. Welling collector, in AMNH), *Decinea rindgei* n. sp. (TL: Soyolapan el Bajo, nr. Comaltepec, Oaxaca, Mexico. Holotype male, 5 August 1961, E. C. Welling collector, in AMNH), *Halotus angellus* (from Rancho Santa Lucia, Sinaloa), *Atrytonopsis zweifeli* n. sp. (TL: 1 mile south Cedritos, Coahuila, Mexico. Holotype male, 23 June 1957, R. Zweifel collector, in AMNH); photographs of types; illustrations of male genitalia]

75. 1969. Zone IV: Great Plains, Canada to Texas in the Plains Region. Pp. 10-12 in: North American annual summary for 1969 [sic, 1968]. News Lepid. Soc. 1969 (3):5-21. [15 Apr 1969] [Distributional data]

76. 1969. Systematic review of the Megathymidae. J. Lepid. Soc. 23(suppl. 1):1-59. [1969] [Megathyminae: *Stallingsia smithi*, *S. maculosus*, *S. jacks*, *Megathymus yuccae yuccae* (= *alabamiae*), *M. y. buchholzi*, *M. coloradensis coloradensis*, *M. c. elidaensis* n. comb., *M. c. navajo* n. comb., *M. c. browni* n. comb., *M. c. stallingsi* n. comb., *M. c. reinthali* n. comb., *M. c. martini* n. comb., *M. c. maudae* n. comb., *M. c. arizonae* n. comb., *M. c. reubeni* n. comb., *M. c. winkensis* n. comb., *M. c. wilsonorum* n. comb., *M. c. louiseae* n. comb., *M. c. kendalli* n. comb., *M. cofaqui*, *M. harrisi*, *M. streckeri*, *M. texanus texanus* (= *albocincta*), *M. t. leussleri*, *M. ursus*, *M. violae*, *M. atryxna*, *M. baueri*, *M. freemani*, *M. juliae*, *M. evansi*, *M. belli*, *M. ricei*, *M. mariae*, *M. chinatiensis*, *M. lajitaensis*, *M. rindgei*, *M. gilberti*, *M. micheneri*, *M. remingtoni*, *M. estelleae*, *M. valverdiensis*, *M. fieldi*, *M. stephensi*, *M. comstocki*, *M. dawsoni*, *M. polingi*, *M. alliae*, *M. rethon*, *M. indecisa*; keys to subfamilies, tribes, genera, species complexes, species and subspecies; restriction and confirmation of many type localities; chromosome numbers; 4 photographs]

77. 1969. Records, new species, and a new genus of Hesperidae from Mexico. J. Lepid. Soc. 23(suppl. 2):1-62. [1969] [*Pyrrhopyge tzotzili* n. sp. (TL: Ocozingo [sic], Chiapas, Mexico. Holotype female, July 1942, T. Escalante collector, in AMNH), *Mysoria wilsoni* n. sp. (TL: Mexcala, Guerrero, Mexico. Holotype male, 23 July 1956, K. Wilson collector, in AMNH), *Epargyreus windi* n. sp. (TL: Ajijic, Jalisco, Mexico. Holotype male, 3 October 1965, R. Wind collector, in AMNH), *E. brodkorbi* n. sp. (TL: Unión Juárez, Chiapas, Mexico. Holotype male, 19 March 1939, R. Brodkorb collector, in AMNH), *Astraptes louiseae* n. sp. (TL: Presidio, Veracruz, Mexico. Holotype male, August 1951, T. Escalante collector, in AMNH), *M. gilberti* n. sp. (TL: seven miles south of Valles, San Luis Potosí, Mexico. Holotype male, 1 August 1966, H. A. Freeman collector, in AMNH), *Polythrix mexicanus* n. sp. (TL: seven miles south of Valles (grounds of Hotel Covadonga), San Luis Potosí, Mexico. Holotype male, 2 August 1966, H. A. Freeman collector, in AMNH), *Ridens crison* (from Comitán, Chiapas), *Urbanus albimargo* (from Catemaco, Veracruz, Santa Rosa, Comitán, Chiapas and seven miles south of Valles, San Luis Potosí), *Aethilla chiapa* n. sp. (TL: Ocozingo [sic], Chiapas, Mexico. Holotype male, August 1958, T. Escalante collector, in AMNH), *Mimia chiapaensis* n. sp. (TL: Santa Rosa, Comitán, Chiapas, Mexico. Holotype male, May 1965, T. Escalante collector, in AMNH), *Windia* n. gen. (TS: *Windia windi*), *Windia windi* n. sp. (TL: Salada, Colima, Mexico. Holotype male, 13 June 1967, R. Wind collector, in AMNH), *Staphylus veytius* n. sp. (TL: Cintalapa, Chiapas, Mexico. Holotype male, 17 August 1964, H. A. Freeman collector, in AMNH), *S. zuritus* n. sp. (TL: Cintalapa, Chiapas, Mexico. Holotype male, 17 August 1964, H. A. Freeman collector, in AMNH), *Quadrus francesius* n. sp. (TL: Santa Rosa, Comitán, Chiapas, Mexico. Holotype male, May 1965, T. Escalante collector, in AMNH), *Enosis matheri* n. sp. (TL: Catemaco, Veracruz, Mexico. Holotype male, December 1963, T. Escalante collector, in AMNH), *Dalla ramirezi* n. sp. (TL: Catemaco, Veracruz, Mexico. Holotype male, August 1958, A. Ramírez collector, in AMNH), *Vettius argentus* n. sp. (TL: Santa Rosa, Comitán, Chiapas, Mexico. Holotype male, May 1965, T. Escalante collector, in

AMNH), *Niconiades comitana* n. sp. (TL: Comitán, Chiapas, Mexico. Holotype male, July 1964, T. Escalante collector, in AMNH), *Anthoptus macalpinei* n. sp. (TL: Fortín de las Flores, Veracruz, Mexico. Holotype male, 26 September 1966, W. S. McAlpine collector, in AMNH), *Pheraeus covadonga* n. sp. (TL: seven miles south of Valles, San Luis Potosí, Mexico. Holotype male, 10 June 1966, H. A. Freeman collector, in AMNH), *Cynea nigricola* n. sp. (TL: Santa Rosa, Comitán, Chiapas, Mexico. Holotype male, May 1965, T. Escalante collector, in AMNH), *Methionopsis typhon* (from seven miles south of Valles, San Luis Potosí), *Moeris duena* (from Santa Rosa, Comitán, Chiapas), *Carystoides escalantei* n. sp. (TL: Villa Juárez, Puebla, Mexico. Holotype male, August 1954, T. Escalante collector, in AMNH), *C. abrahami* n. sp. (TL: Catemaco, Veracruz, Mexico. Holotype male, July 1951, A. Ramírez collector, in AMNH), *C. floresii* n. sp. (TL: seven miles south of Valles (jungle section of the grounds of Hotel Covadonga), San Luis Potosí, Mexico. Holotype male, 4 August 1966, H. A. Freeman collector, in AMNH), *Carystoides mexicana* n. sp. (TL: seven miles south of Valles, San Luis Potosí, Mexico. Holotype male, 5 August 1966, H. A. Freeman collector, in AMNH), *Atrytone mazai* n. sp. (TL: Mexcala, Guerrero, Mexico. Holotype male, 13 July 1956, K. Wilson collector, in AMNH), *Atrytone potosiensis* n. sp. (TL: seven miles south of Valles, San Luis Potosí (grounds of Hotel Covadonga), Mexico. Holotype male, 4 August 1966, H. A. Freeman collector, in AMNH), *Mellana montezuma* n. sp. (TL: seven miles south of Valles (grounds of Hotel Covadonga), San Luis Potosí, Mexico. Holotype male, 27 July 1966, H. A. Freeman collector, in AMNH), *Euphyes peneia* (from Catemaco, Veracruz), *E. chamuli* n. sp. (TL: Santa Rosa, Comitán, Chiapas, Mexico. Holotype male, May 1965, T. Escalante collector, in AMNH), *Tirynthia huasteca* n. sp. (TL: seven miles south of Valles (grounds of Hotel Covadonga), San Luis Potosí, Mexico. Holotype male, 7 August 1966, H. A. Freeman collector, in AMNH); photographs of types; illustrations of male genitalia; holotypes at AMNH, not USNM as stated in text, see ref. 104]

78. 1970. Notes on the genus *Cephise* Evans, with a new record for Mexico (Hesperiidae). J. Lepid. Soc. 24(1):68-69. [26 Mar 1970] [Distributional data; *C. cephise* from six miles south of Ciudad Valles, S[an] L[uis] P[otosí]; notes on systematic position of the genus]

79. 1970. Zone IV: Great Plains, Canada to Texas in the Plains Region. Pp. 11-12 in: North American annual summary for 1969. News Lepid. Soc. 1970 (3):6-19. [15 Apr 1970] [Distributional data; first U.S. record for *Aguna metophis* from Bentsen - Rio Grande Park, [Hidalgo Co.,] Texas]

80. 1970. A new genus and eight new species of Mexican Hesperidae (Lepidoptera). J. New York Ent. Soc. 78(2):88-99. [19 Oct 1970] [*Urbanus viridis* n. sp. (TL: Fortín de los Flores, Veracruz, Mexico. Holotype male, 15 August 1967, H. A. Freeman collector, in AMNH), *Zobera* n. gen. (TS: *Zobera albopunctata*), *Z. albopunctata* n. sp. (TL: Salada, Colima, Mexico. Holotype male, 13 June 1967, R. Wind collector, in AMNH), *Piruna maculata* n. sp. (TL: Durango - Villa Unión Hwy, Rte. 40, 6500', Sinaloa, Mexico. Holotype male, 29 April 1966, P. Hubbell collector, in AMNH), *Piruna sina* n. sp. (TL: Durango - Villa Unión Hwy, Rte. 40, 6500', Sinaloa, Mexico. Holotype male, 29 April 1966, P. Hubbell collector, in AMNH), *Piruna ajijiciensis* n. sp. (TL: Ajijic, Jalisco, Mexico. Holotype male, 20 July 1966, R. Wind collector, in AMNH), *Piruna milpa* n. sp. (TL: Milpillas, Guerrero, Mexico. Holotype male, 6 July 1956, K. Wilson collector, in AMNH), *Amblyscirtes immaculatus* n. sp. (TL: Salada, Colima, Mexico. Holotype male, 4 June 1967, R. Wind collector, in AMNH), *Aedes* [sic] *brilla* n. sp. (TL: Catemaco, Veracruz, Mexico. Holotype male, January 1953, T. Escalante collector, in AMNH); photographs of types; illustrations of male genitalia]

81. 1970. A new species of *Piruna* from Texas (Hesperiidae). J. Lepid. Soc. 24(4):247-249. [16 Nov 1970] [*Piruna haferniki* n. sp. (TL: Green Gulch, Big Bend National Park, Brewster Co., Texas. Holotype male, 4 August 1968, J. E. Hafernik collector, in AMNH); photographs of holotype; illustration of genitalia]

82. 1971. Zone 4 [Saskatchewan, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas]. P. 3 in: Annual field season summary for 1970. News Lepid. Soc. 1971(3):1-9. [15 Apr 1971]

[Distributional data]

83. 1972. Zone 4: Saskatchewan, Manitoba, The Dakotas, Nebraska, Kansas, Oklahoma and Texas. Pp. 6-7 in: 1971 Field season summary. News Lepid. Soc. 1972 (2):1-16. [15 Mar 1972] [Distributional data]

84. 1973. A review of the *Amblyscirtes* with the description of a new species from Mexico (Hesperiidae). J. Lepid. Soc. 27(1):40-57. [23 Feb 1973] [Key to adults; distributional data; synonymies; *Amblyscirtes* (= *Stomyles*, = *Maistor*, = *Epiphyes*), *A. folia* (= *tutolia*), *A. raphaeli* n. sp. (TL: Salada, Colima, Mexico. Holotype male, 7 August 1969, E. C. Welling collector, in AMNH), photographs of type, male genitalia illustrated, *A. immaculatus*, *A. nisulæ-pinorum*, *A. exotera* (= *nanno*, = *marcus*), *A. simius*, *A. cassus*, *A. aenus*, *A. ernia*, *A. linda*, *A. oslari*, *A. fluonia*, *A. elissa*, *A. samoset* (= *hegon*, = *nemoris*, = *argina*), *A. texanae*, *A. tolteca*, *A. prenda*, *A. aesculapius* (= *textor*, = *oneko*, = *wakulla*), *A. carolina*, *A. reversa*, *A. nereus*, *A. nysa* (= *similis*), *A. eos* (= *comus*, = *nilus*, = *quinquemacula*), *A. vialis* (= *asella*), *A. celia*, *A. belli*, *A. alternata* (= *meridionalis*), *A. florus* (= *mate*), *A. anubis*, *A. phylace*, *A. fimbriata* (= *bellus*)

85. 1973. Zone 4: Saskatchewan, Nebraska, Kansas, Oklahoma, and Texas. Pp. 9-10 in: The 1972 field season summary. News Lepid. Soc. 1973 (2):1-19. [15 Mar 1973] [Distributional data]

86. 1974. Zone 4: Great Plains: Saskatchewan, Manitoba, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. Pp. 6-8 in: The 1973 field season summary. News Lepid. Soc. 1974 (2):1-18. [25 Jun 1974] [Distributional data]

87. 1975. Zone 4: Great Plains: Saskatchewan, Manitoba, Oklahoma, and Texas. Pp. 7-8 in: The 1974 field season summary. News Lepid. Soc. 1975 (2/3):1-17. [1 Jun 1975] [Distributional data]

88. 1975. A new species of *Euphyes* Scudder from Texas (Hesperiidae). J. Lepid. Soc. 29(4):227-229. [24 Nov 1975] [*Euphyes macguirei* n. sp. (TL: Benbrook Res., Tarrant Co., Texas. Holotype male, emg. 6 October 1973, W. W. McGuire collector, in AMNH); photographs of types; illustration of male genitalia]

89. 1976. New Hesperiidæ records for Mexico. J. Lepid. Soc. 30(1):62-67. [22 Apr 1976] [Distributional data; *Tarsoctenus praecia* (from "Mexico"), *Drephalys dumeril* (from Candelaria Loxicha, Oaxaca), *D. oria* (from Rancho San Carlos, Oaxaca), *Aguna aurunce* (from Tenosique, Tabasco), *Zestusa staudingeri* (from 20 km south of San Cristóbal, Chiapas), *Ridens philia* (from Santa Rosa, Comitán, Chiapas and Candelaria Loxicha, Oaxaca), *Astraptes fulgor* (from Campeche, Campeche), *A. tucuti* (from Rancho Dos Amatos [sic], Veracruz), *A. samson* (from Presidio, Veracruz and Muste, Chiapas), *Calliades zeutus* (from X-Cán, Quintana Roo), *Thorybes albosuffusa* (from Cedritos, Coahuila and "Colima"), *Bungalotis erythus* (from X-Cán, Quintana Roo), *Dyscophellus ramon* (from Presidio, Veracruz), *Nascus broteas* (from Tenosique, Tabasco), *Gindanes brontinus* (from Pisté, Yucatán), *Pythonides assecla* (from Tenosique, Tabasco and X-Cán, Quintana Roo), *Ebrietas livius* (from Tenosique, Tabasco), *Pyrgus oilus orcus* (from Tapachula, Chiapas), *Synapte puma* (from Candelaria Loxicha, Oaxaca), *Thargella caura* (from Tenosique, Tabasco and Orizaba, Veracruz), *Lerema lumina* (from San Carlos, Chiapas), *Onophas columbaria* (from Kabah Ruins, Yucatán), *Turesis theste* (from Tenosique, Tabasco), *Vertica grandipuncta* (from Tenosique, Tabasco), *Talides alternata* (from Candelaria Loxicha, Oaxaca), *Telles arcaus* (from "Ochls north Mexico"), *Carystoides orbis* (from Tenosique, Tabasco), *Mellana balsa freemani* (from Candelaria Loxicha, Oaxaca), *M. tecla* (from Candelaria Loxicha, Oaxaca), *Panoquina panoquinoides* (from Progreso, Yucatán), *Xeniades pteris* (from Muste, Chiapas), *Saliana hewitsoni* (from Catemaco, Veracruz)]

90. 1976. Zone 4: Great Plains: Manitoba, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, and Texas. Pp. [7] - [8] in: The 1975 field season summary. News Lepid. Soc. 1976 (2):[1]-[18]. [15 May 1976] [Distributional data]

91. 1977. *Staphylus azteca*, new record for the United States (Hesperiidae). J. Lepid. Soc. 31(1):62. [30 Mar 1977] [Distributional data in Mexico and Central America; one female, Alpine, Brewster Co., Texas, 2 June 1940, H. A. Freeman collector; specimen later determined to be *Staphylus ceos* (W. H. Edwards, 1882), see Opler &

Warren (2002)]

92. 1977. Zone 4: Great Plains: Saskatchewan, Manitoba, South Dakota, Nebraska, Oklahoma, and Texas. Pp. 9-10 in: Field summary 1976. News Lepid. Soc. 1977 (2):3-15, 18-21. [Mar/Apr 1977] [Distributional data]

93. 1977. Six new species of Hesperiidæ from Mexico. J. Lepid. Soc. 31(2):89-99. [30 Jun 1977] [*Pyrrhopyge hoffmanni* n. sp. (TL: Tenosique, Tabasco, Mexico. Holotype male, 3 September 1962, E. C. Welling collector, in AMNH), *Epargyreus deleoni* n. sp. (TL: X-Cán, Quintana Roo, Mexico. Holotype male, 13 June 1969, E. C. Welling collector, in AMNH), *Typhedanus salas* n. sp. (TL: Pisté, Yucatán, Mexico. Holotype male, 26 August 1968, E. C. Welling collector, in AMNH), *Polythrix guatemalaensis* n. sp. (TL: Sayaxché, El Petán [sic], Guatemala. Holotype male, 23 August 1963, E. C. Welling collector, in AMNH), *Codatractus yucatanus* n. sp. (TL: Pisté, Yucatán, Mexico. Holotype male, 1 September 1967, E. C. Welling collector, in AMNH), *Bungalotis mülleri* n. sp. (TL: Candelaria Loxicha, Oaxaca, Mexico. Holotype male, 22 September 1968, E. C. Welling collector, in AMNH); photographs of types, illustrations of male genitalia]

94. 1978. Zone 4: Great Plains: Saskatchewan, Manitoba to Texas. Pp. 8-9 in: Field summary for 1977. News Lepid. Soc. 1978 (2):3-16. [Mar/Apr 1978] [Distributional data]

95. 1979. Zone 4: Manitoba, North Dakota, South Dakota, Nebraska, Oklahoma, Texas. P. 8 in: Field summary for 1978. News Lepid. Soc. 1979 (2):3-18. [Mar/Apr 1979] [Distributional data]

96. 1979. Nine new species and seven new records of Mexican Hesperiidæ. Bull. Allyn Mus. No. 52:1-13. [20 Jul 1979] [Distributional data; *Ridens allyni* n. sp. (TL: Candelaria Loxicha, Oaxaca, Mexico. Holotype male, 30 September 1968, E. C. Welling collector, in FSMC), *Myrinia raymundo* n. sp. (TL: Tenosique, Tabasco, Mexico. Holotype male, 4 September 1962, E. C. Welling collector, in FSMC), *Pythonides mundo* n. sp. (TL: Candelaria Loxicha, Oaxaca, Mexico. Holotype male, 14 March 1969, E. C. Welling collector, in FSMC), *Zobera marginata* n. sp. (TL: Candelaria Loxicha, Oaxaca, Mexico. Holotype male, 12 August 1971, E. C. Welling collector, in FSMC), *Piruna mexicana* n. sp. (TL: 9 miles east of Querétaro, Querétaro, Mexico. Holotype male, 25 August 1967, J. A. Scott collector, in FSMC), *P. sombra* (from Ochuc, and Tuxtla Gutierrez, Chiapas), *Dalla lathaea* (from Ochus [sic], Chiapas), *Turesis tabascoensis* n. sp. (TL: Tenosique, Tabasco, Mexico. Holotype male, 28 August 1962, E. C. Welling collector, in FSMC), *Vertica ibis* (from Tenosique, Tabasco), *Decinea mustea* n. sp. (TL: Muste, Chiapas, Mexico. Holotype male, 19 July 1968, E. C. Welling collector, in FSMC), *Poanes benito* n. sp. (TL: La Calera, 10 miles south of Cumbre de Antian [sic], Jalisco, Mexico. Holotype male, July-August 1967, P. Hubbell collector, in FSMC), *Mellana oaxaca* n. sp. (TL: Candelaria Loxicha, Oaxaca, Mexico. Holotype male, 14 September 1971, E. C. Welling collector, in FSMC), *Euphyes ampa* (from Candelaria Loxicha, Oaxaca), *Amblyscirtes simius* (from 18 miles southeast of Saltillo, Coahuila), *Saliana severus* (from Chimalapa, Oaxaca), *Neoxeniades posta* (from Tehuantepec, Oaxaca); photographs of types; illustrations of male genitalia]

97. 1979. Review of the Mexican *Polythrix* Watson 1893 (Hesperiidae). J. Lepid. Soc. 33(2):124-128. [20 Jul 1979] [key to adults; distributional data; *Polythrix octomaculata* (= *decurata*, = *calenus*, = *elegans*, = *alciphron* n. syn.), *P. asine*, *P. mexicanus*, *P. procerus* (= *aelius*, = *auginulus*), *P. guatemalaensis*, *P. caunus* (= *lindora*); illustrations of male genitalia]

98. 1980. Zone 4: Saskatchewan, Manitoba, N. & S. Dakota, Nebraska, Kansas, Oklahoma, Texas. Pp. 18-19 in: Season summary, 1979. News Lepid. Soc. 1980 (2):13-27. [Mar/Apr 1980] [Distributional data]

99. 1981. Zone 4: Saskatchewan, Manitoba, N. & S. Dakota, Nebraska, Kansas, Oklahoma, Texas. P. 20 in: Season summary, 1980. News Lepid. Soc. 1981 (2):13-28. [Mar/Apr 1981] [Distributional data]

100. 1982. Zone 4: Manitoba, S. Dakota, Nebraska, Kansas & Texas. Pp. 21-22 in: Season summary, 1981. News Lepid. Soc. 1982 (2):13-31. [Mar/Apr 1982] [Distributional data]

101. 1982. Notes on some species of *Astraptes* Hübner, 1819 (Hesperiidae). J. Lepid. Soc. 36(3):236-237. [14 Dec 1982] [*Astraptes fulgurator* (= *mercatus*, = *fulminator*, = *misitra*, = *albifasciatus*, = *catemacoensis* n. syn.), *A. crana* (= *escalantei* n. syn.)]
102. 1983. Zone 4: Manitoba, North Dakota, South Dakota, Nebraska, Kansas, and Texas. Pp. 22-24 in: Season summary, 1982. News Lepid. Soc. 1983 (2):13-35. [Mar/Apr 1983] [Distributional data]
103. 1984. Zone 4. Great Plains: Saskatchewan, Manitoba, North Dakota, Nebraska, Kansas, Oklahoma and Texas. Pp. 23-26 in: Season summary, 1983. News Lepid. Soc. 1984 (2):13-36. [Mar/Apr 1984] [Distributional data]
104. 1989. On the location of some H. A. Freeman skipper holotypes (Hesperiidae). J. Lepid. Soc. 43(3):244. [7 Sep 1989] [All in AMNH: *Pyrrhopyge tzotzili*, *Mysoria wilsoni*, *Epargyreus windi*, *E. brodkorbi*, *Astraptes louiseae*, *A. gilberti*, *Polythrix mexicanus*, *Aethilla chiapa*, *Mimio chiapaensis*, *Windia windi*, *Staphylus veytius*, *S. zuritus*, *Quadrus francesius*, *Enosis matheri*, *Dalla ramirezi*, *Vettius argentus*, *Niconiades comitana*, *Anthoptus macalpinei*, *Cynea nigricola*, *Pheraeus covadonga*, *Carystoides escalantei*, *C. abrahami*, *C. floresti*, *C. mexicana*, *Atrytone mazai*, *A. potosiensis*, *Mellana montezuma*, *Euphyes chamuli*, *Tirymitha huasteca*]
105. 1989. Four new skipper records for Mexico (Hesperiidae). News Lepid. Soc. 1989(6):79. [Nov/Dec 1989] [*Hyalothyrus neleus pemphigargyra* (from Agua Azul, Chiapas), *Bolla saletas* (from 5 miles north of Oaxaca, Oaxaca), *Mycteris caerulea* (Palenque - Ocosingo Hwy., km. 95, Chiapas), *Paratrytone niveolimbus* (from Road to Tenejapa, San Cristóbal, Chiapas)]
106. 1990. A new species of *Piruna* from Mexico (Hesperiidae). J. Lepid. Soc. 44(1):28-31. [5 Jun 1990] [*Piruna kemneri* n. sp. (TL: 5 miles north of Oaxaca, Hwy. 175, ca. 1800m., Oaxaca, Mexico. Holotype male, 21 July 1987, John Kemner collector, in AMNH); photographs of type; illustration of male genitalia]
107. 1991. A new species of *Piruna* from Oaxaca, Mexico (Hesperiidae). J. Lepid. Soc. 45(1):42-45. [14 Aug 1991] [*Piruna mullinsi* n. sp. (TL: 8 km north of Oaxaca, Hwy. 175, ca. 1800m., Oaxaca, Mexico. Holotype male, 17 August 1988, John Kemner collector, in AMNH); photographs of type; illustration of male genitalia]
108. 1991. A new species of *Dalla* from Mexico (Lepidoptera: Hesperiidae). Trop. Lepid. 2(1):65-67. [[28] Aug 1991] [Distributional data; *Dalla bubobon*, *D. ligilla*, *D. dividuum*, *D. mentor*, *D. lalage*, *D. lethaea*, *D. faula*, *D. ramirezi*, *D. curiosa*, *D. steinhauseri* n. sp. (TL: Km 95, La Esperanza, Cerro Pelón, ca. 2100m., Sierra Juárez, Oaxaca, Mexico. Holotype male, 28 May 1990, John Kemner collector, in FSMC); *Niconiades vista* (first Mexican record from road to Telea [sic] de Castro, 2250m., Oaxaca)]
109. 1992. A new species of *Amblyscirtes* from Mexico (Hesperiidae). J. Lepid. Soc. 45(4):291-295. [1991 [19 May 1992]] [*Amblyscirtes brocki* n. sp. (TL: Trinidad - Yecora Road, 16 km NW Yecora, Sonora, Mexico. Holotype male, 21 July 1985, Jim P. Brock collector, in AMNH); photographs of type, illustration of male genitalia]
110. 1993. Notes on *Amblyscirtes* Scudder, with the description of two new subspecies (Insecta: Lepidoptera: Hesperiidae: Hesperiinae). Ann. Carnegie Mus. 62(4):341-350. [29 Nov 1993] [Distributional data; *Amblyscirtes tolteca tolteca*, *A. t. prenda* rev. stat., *A. elissa elissa*, *A. e. arizonae* n. ssp. (TL: 0.5 mi W Kino Springs, Santa Cruz Co., Arizona. Holotype male, 20 July 1986, Jim P. Brock collector, in CMNH), *A. fimbriata fimbriata* (= *bellus*), *A. f. pallida* n. ssp. (TL: 64 km W Toluca 9300', Mexico, Mexico. Holotype male, 10 June 1989, John Kemner collector, in CMNH); photographs of types; checklist of *Amblyscirtes* species and synonyms]
111. 1995. Underwing moths (Noctuidae: *Catocala*) in my Texas residential lot. News Lepid. Soc. 1995(4):94. [Oct 1995] [Survey period from 20 May 1982 to 6 October 1989; list of 30 *Catocala* species taken at Garland, Dallas Co.: *agrippina*, *alabamae*, *amatrix*, *amica*, *carissima*, *consors*, *dejecta*, *delilah*, *epione*, *ilia*, *innubens*, *insolabilis*, *jair*, *junctura*, *lacrymosa*, *lineola*, *maesitosa*, *micronympha*,

minuta, *mira*, *muliercula*, *neogama*, *piatrix*, *sappho*, *texarkana*, *texanae*, *titania*, *ulalume*, *ultronia*, *vidula*; *Catocala* collection to the AMNH]

112. (un-dated, un-published manuscript). The distribution of Hesperiidae in Mexico. 142pp. [Compiled before or during 1981 and distributed to various colleagues for comments; lists 696 species from Mexico, giving type localities and Mexican distribution for each. This list was frequently consulted during the preparation of Llorente et al. (1990) and Warren (2000), and was cited by Warren (2000)]

NEW GENERA, SPECIES, SUBSPECIES AND FORMS

Names are arranged alphabetically, and keyed to numbered entries in the bibliography above. The current subfamilial or tribal placement for each taxon is listed (following Opler & Warren 2002). In all cases where the status of a taxon has changed from that originally proposed by Freeman, references have been provided for further information.

New genera.

Agathymus Megathymini 43
Stallingsia Megathymini 43
Turnerina Megathymini 43
Windia Pyrginae 77
Zobera Pyrginae 80

New Species.

abrahami, *Carystoides* Hesperiinae 77
ajijiciensis, *Piruna* Heteropterinae 80
albopunctata, *Zobera* Pyrginae 80
allyni, *Ridens* Pyrginae 96
argenteus, *Vettius* Hesperiinae 77
belli, *Amblyscirtes* Hesperiinae 5
belli, *Megathymus* Megathymini 41 Placed in *Agathymus* Freeman, see 43.
benito, *Poanes* Hesperiinae 96 See Burns (1992a) for taxonomic notes.
brilla, *Aides* Hesperiinae 80
brocki, *Amblyscirtes* Hesperiinae 109
brodkorbi, *Epargyreus* Pyrginae 77
buchholzi, *Strymon* Eumaeini 26 Synonym of *S. bebrycia* (Hewit.), see Robbins & Nicolay (2001).
catemacoensis, *Astraptes* Pyrginae 66 Synonym of *A. fulgurator azul* (Reak.), see 101.
chamuli, *Euphyes* Hesperiinae 77
chiapa, *Aethilla* Pyrginae 77
chiapaensis, *Mimio* Pyrginae 77
chinatiensis, *Agathymus* Megathymini 57 Subspecies of *A. mariae* (Barnes & Benjamin), see Roever (1975).
chisosensis, *Apodemia* Riodinidae 56
chisosensis, *Megathymus* Megathymini 39 Possible subspecies of *Agathymus neumogeni*, see Roever (1975), 43.
comitana, *Niconiades* Hesperiinae 77
covadonga, *Pheraeus* Hesperiinae 77
deleoni, *Epargyreus* Pyrginae 93
diablaensis, *Agathymus* Megathymini 49 Subspecies of *A. neumogeni* (W. H. Edw.), see Roever (1975).
donahuei, *Euphyes* Hesperiinae 66 Synonym of *E. peneia* (Godm.), see Mielke (1972).
erna, *Amblyscirtes* Hesperiinae 8 Subspecies of *A. aenus* (W. H. Edw.), see Scott (1977).
escalantei, *Astraptes* Pyrginae 66 Synonym of *A. creteus crana* Evans, see 101.
escalantei, *Carystoides* Hesperiinae 77
evansi, *Calpodus* Hesperiinae 21 Placed in *Panoquina* Hemming, see Evans (1955).
evansi, *Megathymus* Megathymini 30 Placed in *Agathymus*

- Freeman, see 43.
- fieldi*, *Agathymus* Megathymini 46
- floresi*, *Carystoides* Hesperinae 77
- francesius*, *Quadnus* Pyrginae 77
- gilberti*, *Agathymus* Megathymini 57 Possible subspecies of *A. mariae* (Barnes & Benjamin), Roever (1975).
- gilberti*, *Astraptes* Pyrginae 77 Synonym of *A. alector hopfferi* (Plötz), see Warren (2000).
- guatemalaensis*, *Polythrix* Pyrginae 93 Placed in *Cephise* Evans, see Burns (1996).
- haferniki*, *Piruna* Heteropterinae 81
- harrisi*, *Megathymus* Megathymini 41 Synonym of *M. cofaqui* (Strecker), see Gatrell (1999).
- hoffmanni*, *Megathymus* Megathymini 39 Placed in *Agathymus* Freeman, see 43.
- hoffmanni*, *Pyrrhopyge* Pyrrhopyginae 93 Placed in *Melanopyge* Mielke, see Mielke (2002).
- huasteca*, *Tirynthia* Hesperinae 77 Subspecies of *Decinea decinea* (Hewitt.), see Mielke (2004).
- hubbellus*, *Urbanus* Pyrginae 74 Synonym of *U. prodictus* Bell, see Steinhäuser (1981).
- immaculatus*, *Amblyscirtes* Hesperinae 80 Synonym of *A. patriciae* (Bell), see Warren (1996).
- julia*, *Lerodea* Hesperinae 19 Placed in *Nastra* Evans by Evans (1955).
- kemneri*, *Piruna* Heteropterinae 106
- lajitaensis*, *Agathymus* Megathymini 57 Subspecies of *A. mariae* (Barnes & Benjamin), see Roever (1975).
- linda*, *Amblyscirtes* Hesperinae 8
- louiseae*, *Astraptes* Pyrginae 77 Synonym of *Narcosius parisi helen* (Evans), see Steinhäuser (1986).
- macalpinei*, *Anthoptus* Hesperinae 77
- macguirei*, *Euphyes* Hesperinae 88 Synonym of *E. dion* (W. H. Edw.), see Shuey (1989).
- maculata*, *Piruna* Heteropterinae 80
- maculosus*, *Megathymus* Megathymini 41 Placed in *Stallingsia* Freeman, see 43.
- marginata*, *Zobera* Pyrginae 96
- matheri*, *Enosis* Hesperinae 77
- mazai*, *Atrytone* Hesperinae 77 Placed in *Anatrytone* Dyar, see Burns (1994).
- mc Alpinei*, *Megathymus* Megathymini 41 Subspecies of *A. neumogeni* (W. H. Edw.), see Roever (1975), 43.
- mexicana*, *Carystoides* Hesperinae 77
- mexicana*, *Piruna* Heteropterinae 96 Subspecies of *P. aea* (Dyar), see Warren (2000).
- mexicanus*, *Polythrix* Pyrginae 77
- milleri*, *Bungalotis* Pyrginae 93
- milpa*, *Piruna* Heteropterinae 80 Synonym of *P. penaea* (Dyar), see Warren (2000).
- montezuma*, *Mellana* Hesperinae 77 Synonym of *Quasimellana fieldi* (Bell), see Burns (1994).
- mullinsi*, *Piruna* Heteropterinae 107
- mundo*, *Pythonides* Pyrginae 96
- mustea*, *Decinea* Hesperinae 96
- nigricola*, *Cynea* Hesperinae 77
- oaxaca*, *Camptopleura* Pyrginae 74
- oaxaca*, *Mellana* Hesperinae 96 Synonym of *Quasimellana eulogius* (Plötz), see Burns (1994).
- potosiensis*, *Atrytone* Hesperinae 77 Placed in *Anatrytone* Dyar, see Burns (1994).
- ramirezi*, *Dalla* Heteropterinae 77
- raphaeli*, *Amblyscirtes* Hesperinae 84
- raymundo*, *Myrinia* Pyrginae 96
- rindgei*, *Agathymus* Megathymini 57 Possible subspecies of *A. mariae* (Barnes & Benjamin), see Roever (1975)
- rindgei*, *Decinea* Hesperinae 74
- salas*, *Typhedanus* Pyrginae 93
- sina*, *Piruna* Heteropterinae 80
- stallingsi*, *Celaenorrhinus* Pyrginae 21
- steinhauseri*, *Dalla* Heteropterinae 108
- tabascoensis*, *Turesis* Hesperinae 96
- tildenti*, *Hesperia* Hesperinae 42 Subspecies of *H. colorado* (Scudder), see Opler & Warren (2002).
- turneri*, *Atrytonopsis* Hesperinae 23 Subspecies of *A. hianna* (Scudder), see dos Passos (1960).
- tzotzili*, *Pyrrhopyge* Pyrrhopyginae 77 Placed in *Jonaspyge* Mielke, see Mielke (2002).
- valverdiensis*, *Agathymus* Megathymini 62 Subspecies of *A. estelleae* (Stallings & Turner), see Roever (1975).
- veytius*, *Staphylus* Pyrginae 77 Synonym of *S. tierra* Evans, see Warren (2000).
- viridis*, *Urbanus* Pyrginae 80
- wellingi*, *Thoon* Hesperinae 74 Synonym of *Arita arita* (Schaus), see Mielke (2004).
- wilsoni*, *Mysoria* Pyrrhopyginae 77 Synonym of *M. affinis* (Herr.-Sch.), see Warren & Mielke (2004).
- windi*, *Epargyreus* Pyrginae 77
- windi*, *Windia* Pyrginae 77
- yucatanus*, *Codatractus* Pyrginae 93
- zuritus*, *Staphylus* Pyrginae 77 Synonym of *S. iguala* (R. C. Williams & Bell), see Warren (2000).
- zweifeli*, *Atrytonopsis* Hesperinae 74

New Subspecies and Forms.

- alabamiae*, *Megathymus yuccae* Megathymini 9 Synonym of *M. y. yuccae* (Boisd. & Leconte), see 37.
- albosuffusa*, *Thorybes pylades* Pyrginae 9
- arizonae*, *Amblyscirtes elissa* Hesperinae 110
- belfragei*, *Hesperia metea* Hesperinae 11 Synonym of *H. m. licinus* (W. H. Edw.), see Miller & Brown (1981).
- buchholzi*, *Megathymus yuccae* Megathymini 37
- dee*, *Megathymus yuccae stallingsi* Megathymini 10
- fredericki*, *Erynnis persius* Pyrginae 9
- kendalli*, *Megathymus yuccae* Megathymini 60
- louiseae*, *Megathymus yuccae* Megathymini 52
- pallida*, *Amblyscirtes fimbriata* Hesperinae 110
- reinthali*, *Megathymus yuccae* Megathymini 52
- sequoyah*, *Polites verna* Hesperinae 7 Placed in *Pomepius* Evans, see Evans (1955).
- stallingsi*, *Hesperia leonardus* Hesperinae 12 Synonym of *H. l. leonardus* Harris, see Miller & Brown (1981)
- stallingsi*, *Megathymus yuccae* Megathymini 10
- turneri*, *Polites themistocles* Hesperinae 13
- winkensis*, *Megathymus yuccae* Megathymini 60

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- no *Mellanas* (Hesperiidae). J. Lepid. Soc. 48(4):273-337.
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