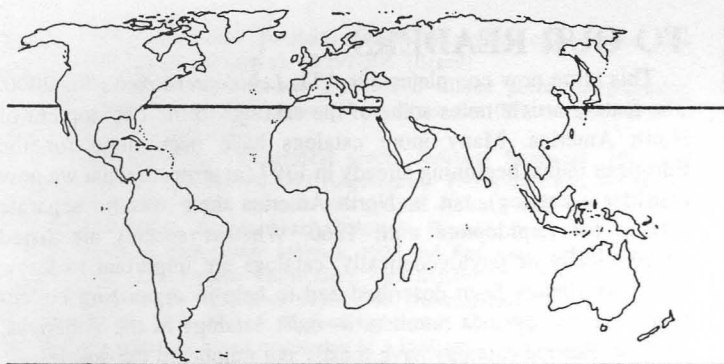




LEPIDOPTERA NEWS

December 2000

No. 4

LEPIDOPTERA CATALOGS IN NORTH AMERICA

by John B. Heppner

SMITHSONIAN MISCELLANEOUS COLLECTIONS.

CATALOGUE

OF THE DESCRIBED

LEPIDOPTERA

OF

NORTH AMERICA.

PREPARED FOR THE SMITHSONIAN INSTITUTION.

BY

JOHN G. MORRIS.



WASHINGTON:
SMITHSONIAN INSTITUTION.

MAY, 1860.

Lepidoptera in North America have been cataloged several times, beginning with the first catalog in 1833. In Europe, on the other hand, the cataloging of insects began before Linnaeus, but it was not until the 10th edition of Linnaeus' *Systema Naturae*, in 1758, that the names are valid, and his work included new descriptions. What we normally consider a catalog of names, or a checklist, was not done in Europe until much later. The catalog by Hübner (1822) seems to be the first European catalog in our modern sense of a catalog (i.e., a list of names, without descriptions of species): the earlier catalog by Borkhausen (1797) treats the world fauna of Lepidoptera up to that time, not just Europe. Also in the 19th century, there was the Walker (1854-66) catalog of world Lepidoptera, but this again mostly involved new descriptions and was mainly based only on what was in the collection of the British Museum, London.

The main European catalogs of Lepidoptera have been, in order of appearance, by Hübner (1822), Boisduval (1828, 1840), Duponchel (1844), Staudinger (1855), Staudinger and Wocke (1861a-c, 1871), Staudinger and Rebel (1901), and Karsholt and Razowski (1996). There are numerous other catalogs for various countries in Europe; and the catalogs by Stephens (1829a, 1829b, 1850, 1856), for British Lepidoptera and other insects, were among the earliest and most influential. Guenée (1845) did a catalog for the Microlepidoptera of Europe.

For the world, besides the early works of Linnaeus and others, the main catalogs for Lepidoptera are by Borkhausen (1797; reprinted in 1810), Walker (1854-66), and Kirby (1871-77, 1892), plus the *Lepidopterorum Catalogus* (1911-39), the latter continued since 1989 by the *Lepidopterorum Catalogus* (new series). Herrich-Schäffer (1864-71) did a partial world catalog but this was not finished once Kirby (1871-77) began his catalog. The Borkhausen (1797) catalog is the earliest for Lepidoptera, but it was originally published anonymously as an index to Fabricius' works: this was reprinted in 1810 (thought to be by Fabricius, but actually a reprint of the Borkhausen catalog) (Lamas, pers. comm.).

The first North American insect catalog was published in 1806, by Melsheimer, yet he only finished the first part which involved beetles, those being his favored group of insects; he had planned further parts but did not publish them. The Melsheimer (1806) catalog is a thin self-published booklet (reprinted in 1973 in the *Melsheimer Entomology Series* of Pennsylvania State University), now extremely rare, but is the first work on American insects published in North America: previously, books on North American insects were printed in London or other cities in Europe. Lepidoptera were included in such early works as that of Thomas Say (1824-28), but this was a faunal work where a few species were described and illustrated (planned to continue for several years, but not completed), and not a catalog.

Fig. 1. Title page from Morris (1860): the first North American catalog treating all known species of Lepidoptera (shown full-size, but with reduced margins).

[cont. on p. 4]

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TO OUR READERS

This issue now completes our ATL *Lepidoptera News* for 2000. The feature article notes some of the catalogs to the Lepidoptera of North America. Many more catalogs have been done for the European fauna, beginning already in 1797 (in terms of what we now consider a catalog), but in North America there was no separate catalog for Lepidoptera until 1860. Whether species are listed alphabetically or phylogenetically, catalogs are important to know what has already been described and to help in organizing collections. We use species numbers in most catalogs in the Americas, while in Europe catalogs have mostly not numbered the species.

The series on the *The Pioneer Century in American Entomology*, by Harold Weiss, was already concluded in the last issue, much of it more of a general nature on entomological history, but with enough on Lepidoptera to hopefully be of interest to our members.

The annual Lepidoptera literature summary herein covers the year 1999, making for another longer issue of the *News* in order to include the over 1,800 references to Lepidoptera papers and books published in 1999. Members are welcome to note errors and items missing from the literature summaries.

To all members — best wishes for the New Year!

J. B. HEPPNER

Executive Director

NOTES

1. **2001 Annual Meeting:** April 20-22 in Gainesville.
2. **2001 Annual Photo Contest:** deadline is March 15, 2001. Note that the prize awards include a Grand Prize winner (award may be cash or a book).
3. **Cover Photos:** members can note that color photos for journal covers are always sought. ATL does not pay photo fees, but you do have the gratification of having your photo selected for one of the front or back covers. Photos should be exceptionally sharp and in our page proportion.
4. **ATL Debentures:** a number of ATL members have already taken advantage of our interest rates and invested in ATL debentures. Please let us know what you can do to help! Returns of principal (at end of period) and interest (paid annually) are guaranteed.
5. **ATL Home Page:** see it at <http://www.troplep.org>. Coming soon (hopefully): color photo files of worldwide butterflies and moths!
6. **2000 Journals:** the 2000 issues are in preparation and probably will be issued together as a group, or close together. For *Tropical Lepidoptera* there will be a double issue in honor of the 80th year of Dr. Eugene Munroe, including a number of articles on Pyralidae and other moths.
7. **ATL Photo Archives:** Do not forget to consider ATL as the ultimate depository for your valued color slides of moths and butterflies and larvae. Do not let your investment of time and effort go to relatives who may not appreciate photographs of Lepidoptera; donate them to the ATL Photo Archives. You are also welcome to send listings of your holdings to add to the ATL Photofile database: let others know what species you have recorded on film. You may have unique life history photos never seen before.
8. **Life memberships:** the Directors voted to increase life member dues, so since June 1, 2000, the ATL life membership will cost \$2,000 (or \$400 per year for 5 years).
9. **Membership List:** the new membership list is being compiled and should be out shortly as an issue of the *News* (if it takes too long to complete, then in 2001).

DONATION

The Sahan Daywi Foundation has kindly again sent \$500, as has been done annually since 1998, as an unrestricted donation for ATL. These donations are in the name of Don R. and Marilyn L. Conlan and family.

JOURNALS: separates (1990-95 only), \$1 first page, 25¢ each added page (specify author and citation). Past journal issues: \$22.50 each (1990-98) (1994 HL double issue: \$45). *Lepid. News*: \$10 per year.

CONTENTS for the journals are issued every two years.

NEW MEMBERS: the ATL journals are \$65 the first year for new members, the same as ATL members who pay before Dec. 31 each year. New members may join ATL anytime but membership begins in January (either the year of joining or for the next year).

LETTERS

DEAR MEMBERS OF ATL

I wish to thank you all for honoring me with the Jacob Hübner Award for 2000! I never dreamt of ever attaining such a high distinction: a "tribute to many years of fine work on Lepidoptera," as Dr. Heppner put it in his award summary. He also suggested that I have the floor and give an address, "about my work or anything else" I would like to say as award winner. I think that I shall enlarge on the *anything else*, because I believe that you have a right to know what, besides Lepidoptera, makes your award winner from Europe (and of all places, Central Europe) tick. Well, here it goes.

When I was 15, I discovered my Number One Hobby. No, not Lepidoptera: it was, and still is, the English language. In our high school of the 'thirties, Latin, German and English were obligatory studies. I found English the most special among all languages: the number of words, expressions, versatility of meaning, and the inexhaustible possibilities of making puns. So what I did was read, read, and read. When I became 18, my first translations of the Saint stories by L. Charteris were published in Hungarian. And, the consternation of professors and relatives!

As for the USA, I read Webster's *New International Dictionary* (all 2620 pages), H. L. Mencken, the poets Whitman, Poe, Service, and as humor began to predominate my hunger, Charles Leland, Don Marquis, the prose of Thurber, Benchley, Perelman, Thorne Smith, H. Allen Smith, and the wonderful slang (!) of Damon Runyon, Hyman Kaplan, and even that of the comics (yes!), *Pogo*, by Walt Kelly, and *Li'l Abner*, by Al Capp.

By the end of the 'forties, I was the only zoologist in Hungary who knew English and I was asked to translate my colleagues' papers into English for publication. About 500 to 1000 manuscript pages every year. The main problem was to find the standard or vernacular names of the animal species discussed. There evolved Hobby Number Two: I began collecting the names of European species in six languages, thereby having to read tens of thousands of scientific papers, mostly solely to glean these names. This went on for 40 years. The resulting *Vocabularium Nominum Animalium Europae Septem Linguis Redactum* (in Latin, German, English, French, Hungarian, Spanish, and Russian) was published in two volumes (1171 and 1015 pages) for the 150,000 names, in 1979. And, you know what? This work gave me the most fun: the gathering of the designations of animals — from the divers amoebas to the Barbary ape or Rock ape of Gibraltar — for the entire animal spectrum of Europe. The most fun was of course with the vernacular names: the unbelievable creativity and phantasy of villagers, woodmen, fishermen, soldiers, vagrants, etc., to name phenomena which fly, swim, crawl, burrow, and parasitise.

Hobby Number Three is — I am a fortunate man! — also my job: the study of "micro-moths" as a museologist and of certain families as specialist. I came to the Hungarian National History Museum exactly 50 years ago, on 1 June 1950. My first contact with fellow lepidopterists in the USA was with Charles Remington, already by the late 'forties, and a long correspondence and discussions followed: this was during the time that he founded *The Lepidopterists' News*. You must be familiar with my lepidopterological oeuvres, by awarding me the Hübner Award, so I need not touch on it further here. My latest work is now in print, three volumes on the Lepidoptera of Greece, a summation of publications and of unpublished materials in museums and private collections. What I loved most during this endeavor were the collecting and vacations — 23 years by now! — in Greece. In order to make my work understood by the wonderful people of the villages, gorges and mountains, I also had to learn Greek: it took me 10 years. It was worth every minute of it.

I have never been in the USA, but still have hopes.

To cut a long story short, I thank you again for the Hübner Award and your attention; and I have never tried to capture it by a Pat and Mike, or a traveling salesman joke. I remain always, your,

LÁZLÓ GOZMÁNY
Hungarian Natural History Museum
Budapest, Hungary

Editor's Note

As a further note, Dr. Gozmány recalled a most amazing occurrence of 1983, which he also wanted to submit:

"When in 1983 it was announced in the *News of the Lepidopterists' Society* (No. 3, p. 47), that I was dead, my first reaction was, typically, to write a Letter to the Editor. It would have presumably been written and mailed from the Great Beyond, and it would have run as follows:

'Dear Sir,'

'Greetings from the Eternal Hunting Grounds — and some grounds they are! Full with flowers and co-hunters, like Linnaeus, Fabricius, Hübner and others, and especially teeming with thousands of butterflies and every one of them a new species! We found this out while resting for a while in the garden of a celestial inn, and marveled at the daily captures. We each had a stein of beer (Hübner had two, because he was Bavarian!). This is the lepidopterists Heaven. Wish you were here!'

"On second thought, however, I desisted from thus addressing the Editor and my confreres, because some of you might have misunderstood my intentions as expressed in that last sentence."

"Now that I am 'resurrected' and having become personally acquainted with our greatest forefathers, and we all having so much fun, adventure, and publication possibilities here below, I am sure that They would like to send us a telex (= telepathic extension) as follows: 'Wish we were there.'"

Dr. Gozmány is the only lepidopterist I know of who was listed as having died, and then has been "resurrected" and alive for another 17 years! We hope this life will continue for many more years!

LEPIDOPTERA BIODIVERSITY

When most persons think of Lepidoptera, they mostly think of butterflies, the well-known denizens of the daytime popularized perhaps most of all in such stories as *Alice in Wonderland*. More recently, people know the conservation efforts for such protected butterflies as the Schaus swallowtail and the Karner blue in North America, or of birdwings in the tropics and the Apollo in Europe. Even amateur lepidopterists consider mainly butterflies in what they know of lepidopteran biodiversity.

The world fauna of Lepidoptera is estimated to contain about 255,000 species (Heppner, 1991, 1998), although only about 146,500 have been described to date. Butterflies (including skippers) amount to about 19,000 described species, with possibly as many as 25,000 actual species extant, when one includes all those not yet named or discovered (the small blues and skippers particularly still include many unnamed species), or about 10% of the total world lepidopteran biodiversity.

Although butterflies are the magnet species that attract attention for conservation of habitats and for many studies in genetics and biogeography, among many other scientific studies, lepidopteran biodiversity clearly is among the moths, with 230,000 species in the world. Many people only know of clothes moths and cutworms, yet there is an incredible diversity of forms and life styles among moths: we have carnivorous larvae in a Hawaiian species of Geometridae; there are small moths with hindwing tails 3 times longer than the forewings; there are micro-moths with antennae 4 times longer than the forewings; some hawk moths have a haustellum 250mm or more in length; both the smallest (ca. 2mm in wingspread) and the largest (ca. 300mm in wingspread) lepidopterans are among the moths, as are also those with the most massive body sizes and the greatest overall wing expanse. Of the 124 families of Lepidoptera, butterflies make up only 7, leaving 117 families of moth diversity.

My reasons for noting the biodiversity of moths is to interest more students in the study of moths: there are at least 17 families of moths with no current specialist and many other families with too few studying the world fauna. Likewise, there are many groups where specialists have been active in northern areas like Europe, Japan and North America, yet the tropical faunas of the same groups are almost completely without comprehensive revisions. There is much to be done.

J. B. HEPPNER
Florida State Collection of Arthropods
Gainesville, Florida



Fig. 2. Rev. J. G. Morris (1803-1895).

The first Lepidoptera catalog for any portion of North America was by Thaddeus W. Harris, published in 1833 as a contribution to a study on the geology and natural history of Massachusetts, edited by Edward Hitchcock. The 1833 catalog is relatively rare now, thus the Lepidoptera section is reprinted below (Harris, 1833: 589-593); also reprinted is Harris' postscript to the insect section (p. 595). One notices that such common species as the gypsy moth are absent from Harris' list: this species was not found in North America until it was inadvertently introduced in 1869. The Harris (1833) catalog listed 428 species of Lepidoptera for Massachusetts (some of the entries are only for the genus, with a notation of how many species Harris knew of in Massachusetts for that genus).



Fig. 4. Auguste R. Grote (1841-1903).



Fig. 3. William H. Edwards (1823-1909).

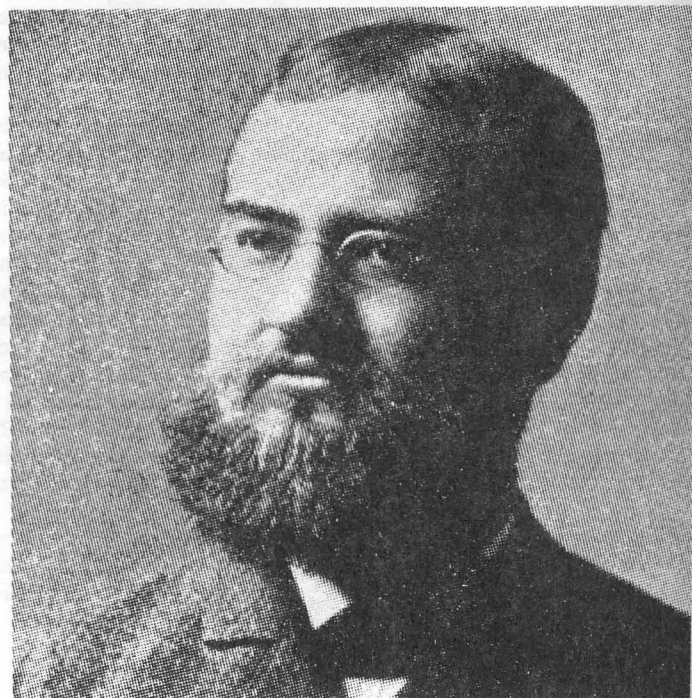


Fig. 5. John B. Smith (1858-1912).

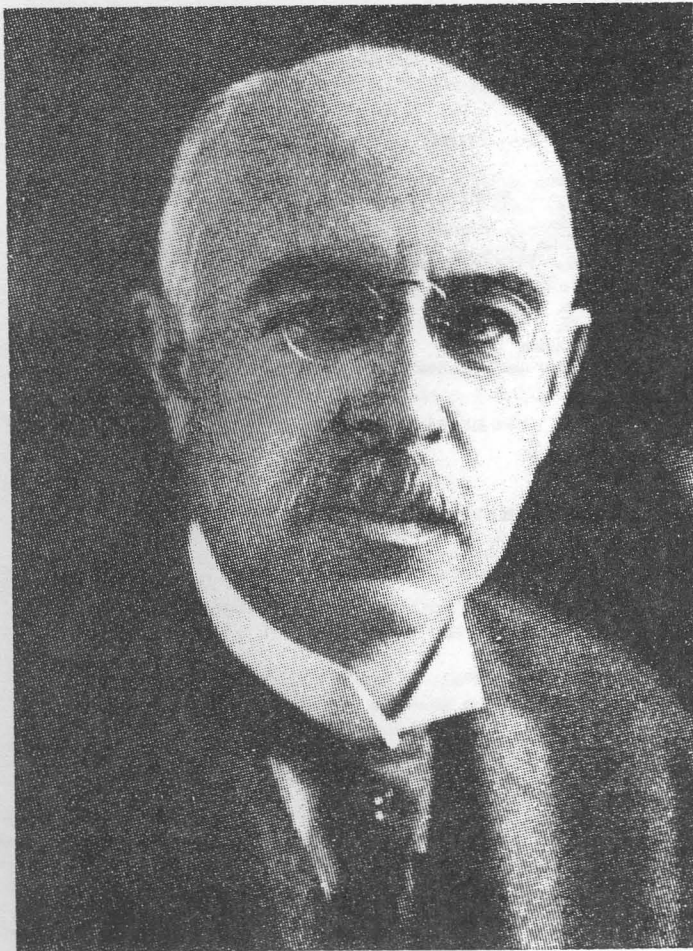


Fig. 6. Henry Skinner (1861-1926).



Fig. 7. Harrison G. Dyar (1866-1929).

Harris enlarged his work in 1841, but this was a treatment of mostly injurious insects in Massachusetts and not a catalog. Harris also did some catalogs of certain families in later years, like Sphingidae, but not for all Lepidoptera. Likewise, other authors in later years also did catalogs on specific families: e.g., Grote (1875-76) and Smith (1893) on Noctuidae, although the Smith (1893) catalog is more a monograph, with descriptions, than a catalog. As with Melsheimer, a few early catalogs for other regions also emphasized insects other than Lepidoptera: e.g., Haldeman (1852). There have been a number of regional catalogs for Lepidoptera as well: e.g., Jones (1951), for British Columbia, and Kimball (1965), for Florida.

There have also been specialized catalogs for butterflies: Morris (1862), Edwards (1877, 1884), Skinner (1898), dos Passos (1964), and Miller and Brown (1981). Both the butterfly catalog by Miller and Brown (1981) and the catalog to butterflies and moths of North America by Dyar ([1903]), include notes on type localities and citations to the original descriptions of all names; the Dyar ([1903]) catalog also includes the known range of each species, as also does the earlier butterfly catalog of Edwards (1884).

The progression of North American catalogs, ever increasing in the numbers of Lepidoptera known for North America north of Mexico, continued after 1833: including those by Morris (1860), with over 2000 species listed; Grote (1882), with 3,182 species (only the larger moths and so-called Bombyces, plus pyralids and tortricids); Smith (1891), with 6,020 species; Dyar ([1903]), with 6,622 species; Barnes and McDunnough (1917), with 8,495 species; and McDunnough (1938-39), with 9,876 species. The two catalogs worked on by McDunnough, first in 1917 and then in 1938-39, are simplified checklists and do not have the dates of description for the species and genera (the 1917 checklist also has no index). The most recent

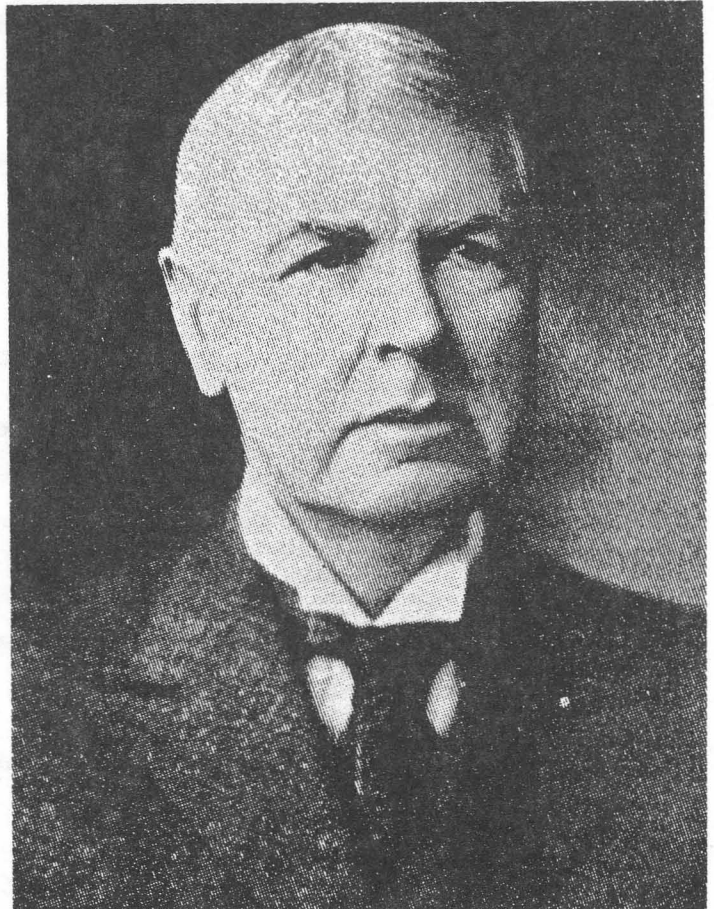


Fig. 8. William Barnes (1860-1930).

VII. LEPIDOPTERA. *Butterflies & Moths.*

PAPILIONIADÆ. *Butterflies.*

Papilio Turnus, L.
 Asterius, Cramer.
 Troilus, L.
 Pontia oleracea, H.
 Colias Philodice, Godart.
 Argynnis Idalia, Drury.
 Aphrodite, F. var. Daphnis, Cramer. Cy-
 Melitaea Phaeton, Drury. [bele, F.
 Myrina, Cramer.

590

Animals in Massachusetts.

Melitaea Cocytus, Cramer. Pharos? Drury. Tharos?
 Vanessa Antiope, L. [Cr.
 Urticae, L.
 interrogationis, F.
 Progne, Cramer, and Godart.
 fuscillata, S.
 Cynthia Atalanta, L.
 Cardui, L.
 Huntera, F. Belladonna, Petiver. Iole, Cr.
 Lavinia, F. Orythia, Smith — Abbot.
 Hipparchia Alope, F. & Godart.
 Andromacha, Hubner.
 Eurytris, F. Cymeles, Cramer.
 semidea, S. fortunata? F.
 Limenitis Ephestion, Stoll. Ursula, F.
 Arthemis, Drury.
 Misippus, L.
 Danaus Archippus, F. Flexippus, Cramer.
 Lycaena phlaeas? L.
 Thecla Damon, Cramer.
 Pan? Drury.
 and five more species.
 Polyommatus Argiolus, L.
 and two more species.

HESPERIIDÆ. *Skippers or Skipper Butterflies.*

Hesperia Clarus, Cramer. Tityrus, F.
 Bathyllus, Smith-Abbot.
 Juvenalis, F.
 Juvenalis, var. Smith-Abbot.
 and eight more species.

SPHINGIIDÆ. *Humming-Bird or Hawk Moths.*

Smerinthus excaecata, Smith-Abbot.
 integerrima.
 myops, Smith-Abbot.
 geminata, S.
 Juglandis, Smith-Abbot.
 Sphinx lineata, L.
 Epilobii.
 Carolina, L.
 Ligustri? L.
 gordius, Cramer.
 Kalmiae, Smith-Abbot.
 Crantor, Cramer. Achemon, Drury.
 satellitia, L. Licaon? Cramer.
 Hylaeus, Drury. Priui, Smith-Abbot.
 pampinatrix, Smith-Abbot. Myron? Cr.
 Azaleae? Smith-Abbot. Chærilus? Cr.
 and three more species.
 Thyreus Abbotii, Swainson.
 Macroglossa Nessus, Cramer.
 Sesia pelagius, Cramer.

Insects.

591

EGERIADÆ.

Ægeria tricineta.
 Cucurbitæ, H.
 exitiosa. Persica, Barton. *Peach-tree Borer.*
 fulvioris, S.
 fulvipes.
 Pyri, H.
 Tipuliformis, L.
 and four more species.
 Thyris maculata.

ZYGÆNIADÆ.

Glancopis pholus, F.
 Aglaoped ispar.

BOMBYCIADÆ.

Hepialus argenteomaculatus.
 Cossus Robinia, Peck. *Locust-tree Cossus.*
 crepera.
 Attacus Luna, L.
 Polyphemus, L.
 Cecropia, L.
 Promethea, Drury.
 Saturnia Proserpina, F.
 Jo, F.
 Ceratocampa regalis, F.
 imperialis, F.
 Dryocampa senatoria, Smith — Abbot. *Astynome? O.*
 rubicunda, F.
 Gastropacha vellea, Stoll.
 and another species.
 Clisiocampa castrensis, Smith — Abbot. *"Caterpillar."*
 neustria, Smith — Abbot.
 pyxidifera? Smith — Abbot.
 Bombyx mori, L. *Introduced Silk Worm.*

NOTODONTIIDÆ.

Pygæa? albifrons, Smith — Abbot.
 ministra, Drury.
 and another species.
 Notodonta anguina, Smith — Abbot.
 concinna, Smith — Abbot.
 unicornis, Smith — Abbot.
 aurora, Smith — Abbot.
 ? grata, F.
 and four more species.
 Clostera — two species.
 Cerura — two species.
 Limacodes scapha.
 and another? species.

ARCTIIDÆ.

Arctia isabella, Smith — Abbot.
 acris, Drury. male, caprotina, Drury.
 Virginica, F.
 textor, H. *Autumnal Web Caterpillar.*
 virgo, Smith — Abbot.
 phyllira, Smith — Abbot.
 figurata, Drury.

Fig. 9. Harris (1833) catalog of Lepidoptera of Massachusetts, pp. 589-591. Note: original pages are copied here into columns and arranged in sequence (after original in JBH library).

- Arctia phalerata.
Egle, Drury.
tessellaria, Smith — Abbot.
Caryæ.
and another species.
Dasychira ? Firmiana, Cramer. torrefacta, Smith — Abbot.
and another species.
Orgyia antiqua ? L.
and two more species.

LITHOSIADÆ.

- Psychomorpha maculata.
Callinorpha ? militaria.
Lithosia Bella, L.
and seven more species.

NOCTUADÆ.

- Erebus odoratus, Drury.
Catocala nupta, L.
consors, Smith, Abbot.
Epione, Drury.
and six more species.
Noctua pyramidea ? L.
Aceris, Smith, Abbot.
præmordens. Cut Worm.
oleracea.
verruca, F.
Jota, Cramer.
cingulata.
Brassicariae ? F.
libatrix, F.
Emmedonia, Cramer.
Erichtea, Cramer.
lunata, Drury.
squamularis, Drury.
and ninety more species.

GEOMETRADÆ.

- Geometra vernata, Peck. brumata ? L. Canker-Worm.
catenaria, Drury.
undulata ? F.
sospeta, Drury.
transversata ? Drury.
vibicaria ? Cramer.
serrata, Drury.
and fifty-nine more species.
Platypteryx crosa.

PYRALIDÆ.

- Herminia — eight species.
Margaritia ? — one species.
Pyralis farinalis, L.
atralis ? F.
and five more species.

TORTRICIDÆ.

- Tortrix Pomona, L. Apple-Worm.
and thirty-two more species.

TINEADÆ.

- Galleria cereana, F. Bee-Moth.
and three more species.
Crambus nivalis, Drury.
Humuli.
aspergillus, Coquebert — Bosc.
and twenty-six more species.
Yponomeuta — two species.
Tinea glandis.
pellionella, L. Clothes Moth.
and ten more species.
Pterophorus — four species.

NUMBER OF SPECIES.

I. Coleoptera	994
II. Orthoptera	44
III. Hemiptera	102
IV. Omoptera	54
V. Neuroptera	91
VI. Hymenoptera	388
VII. Lepidoptera	428
VIII. Strepsiptera	1
IX. Diptera	247
X. Aptera	1
	2350

The insects enumerated in the preceding list, with the exception of about half a dozen, are contained in my cabinet; and most of them were collected in the vicinity of Boston. With them are included some, which, though found beyond the boundaries of the State, may eventually be detected in Massachusetts. For these and an immense number of duplicates I am indebted to my friend the Rev. L. W. Leonard, who has still more increased my obligations to him by his disinterested liberality in sending me even the rare and undescribed insects of which he possessed no duplicates. Dr. D. S. C. H. Smith has kindly supplied me with a suit of insects from Sutton, Massachusetts, among which were nearly a hundred species new to my collection. My acknowledgements are due also to Wm. Oakes, Esq. of Ipswich, particularly for the water-beetles; and to Prof. N. M. Hentz, formerly of Northampton, to Drs. Pickering, Gould, and J. S. C. Greene, Mr. John Randall, Mr. T. Nuttall, Mr. John Bethune, and Miss D. Dix, for several interesting insects.

Even with these augmentations the present list must fall far short of the actual number of species or kinds existing in this Commonwealth. The proportion of insects to plants has been stated to be six species of the former to one of the latter. The flowering plants of Massachusetts amount to above 1200 species; hence our insects cannot be much less in number than 7000 species.

Entomology, within a few years, has engaged the attention of some of the first naturalists of Europe; and, since the days of Linne and of Fabricius, vast accessions have been made to the number of known insects, and great improvements in the science have been introduced. The results of this augmented knowledge have not yet reached us, and are beyond the means of most individuals in this country. Should any of the sons of New England have the inclination to turn their attention to this interesting branch of Natural History, they must, for want of the necessary books on the subject, remain in ignorance of the labors of their European contemporaries; and, although they may have discovered many curious and valuable facts respecting our native insects, they must resign to foreigners the honor of making known the objects of their investigations.

A long list of names in a dead language may perhaps be considered as a pedantic and useless exhibition. As an apology for this it may be stated that but a very few of our insects have received popular names, and that therefore I have been compelled to give only the scientific names by which they are known to naturalists. It is a matter of deep regret to me that even this list of hard names is so very imperfect, and that so many species have been left unnamed. For this omission no other excuse can be offered than a reference to the obstacles and difficulties already mentioned, which unavoidably arrest the American naturalist in the midst of his investigations.

To the names of insects which have been ascertained through published descriptions I have added the names or initials of the first describers, together with some of the most common synonyms, which have been subsequently imposed. A few names, without any authorities annexed will also be found on this list; they are applied to species, which, as far as I can ascertain, do not appear to have been published: these it is my hope soon to make known by means of necessary descriptions.

T. WILLIAM HARRIS.

Cambridge, (Mass.) Feb. 1833.



Fig. 11. James H. McDunnough (1877-1962).

North American catalog is by Hodges *et al.* (1983), with 11,283 species listed. A new North America catalog is currently in progress (Heppner, in prep.), where the total will be about 12,000 species.

The older catalogs listed species in an artificial arrangement, beginning with butterflies, followed by the larger bombyces and other larger moths, and ending with the most primitive Microlepidoptera. The 1983 catalog (Hodges *et al.*, 1983) then reversed this traditional arrangement and organized the families in a phylogenetic classification, beginning with the most primitive groups, butterflies near the middle, and ending with the Noctuidae as the most advanced moths: of course, Lepidoptera have branched into several lineages of advanced groups, like butterflies, so any linear arrangement necessarily cannot have all the advanced groups at the end.

ACKNOWLEDGMENTS

My thanks to Dr. Gerardo Lamas, of the Museo ed Historia Natural, Lima, Peru, for reading the manuscript and noting Borkhausen as the correct author of the 1797 and 1810 catalogs (often incorrectly attributed in the past with Fabricius).

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POLYOMMATINE ANNOTATIONS TO BERNARD D'ABRERA'S THIRD HOLARCTIC VOLUME

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This is the second of my lycaenid annotations to Bernard d'Abrera's series, *Butterflies of the World*. The first (see Bálint, 1999a) was a polyommata addition to the Appendix that appeared in the Neotropical lycaenid volume (d'Abrera, 1995). The present contribution is also on polyommata, but for the Holarctic volume, which contains the lycaenids (d'Abrera, 1993).

Very recently, I have compiled the "*Polyommatus* sensu Eliot Type Catalogue" of the Natural History Museum (BMNH), listing type material of 326 nominal taxa, designating 190 lectotypes and synonymizing 21 names (Bálint 1999b). For lectotype selections, previously figured specimens were preferred. As d'Abrera figured many specimens of historical and taxonomic importance (syntypes, holotypes, paratypes) and this had remained unnoticed, I paid special attention during the lectotype selections not only for specimens figured alongside original descriptions but also to the photographic figures of d'Abrera. Thus, I list here all the specimens which were figured by d'Abrera, becoming syntypes, lectotypes and paralectotypes via my work. I recommend to my colleagues that they mark these "additional" type specimens with little red spots in their own copy of d'Abrera.

First, the page involved is given, then the name of the taxon as it appears in d'Abrera (1993). After the equals sign (=), I list the scientific name with the author(s) and year of description in bold typeface according to Bálint (1999b, which follows Bridges 1994). After the scientific name, the status of the type and the caption of the specimen involved is listed in parentheses as it appears on the plate. Where incorrect spelling of the name or date of publication occurs, it is marked as [sic!] but no correction is given, because that is always obvious from the name I give in bold typeface. It must be emphasized however, that most of the apparent errors and spellings in d'Abrera's works are generally caused by his faithful transposition of the spellings present in either the Museum's card index and/or in the curatorial labels in the type or main collection drawers. Further, d'Abrera has always consistently refused to follow (for deeply held reasons of his logic), the convention of placing author names in parentheses following generic changes. My annotations therefore are not a criticism of his practice, nor are they meant to imply that he is in any way in scientific error.

p. 486

P. argus pseudagon [sic!] Butler = ***Plebejus argus pseudagon* (Butler, 1882)**

Lectotype, male: "P. argus pseudagon [sic!] ♂ R"

Paralectotype, female: "P. argus pseudagon [sic!] ♀ R"

p. 487

Plebejus pylaon nicholli Elwes = ***Plebejus pylaon nicholli* (Elwes, 1901)**

Lectotype, male: "P. pylaon nicholli ♂ R"

Plebejus vogelii Oberthür, 1910 [sic!] = ***Plebejus vogelii* (Oberthür, 1920)**

Paralectotype, male: "P. vogelii ♂ R"

Paralectotype, females: "P. vogelii ♀ R", "P. vogelli [sic!] ♀ R"

p. 491

Plebejus (Vacciniina) balinti sp. nov.

Holotype, male: "P. balint ♂ R"

Note: The taxon proved to be junior subjective synonym of *Cupido alaina* (Staudinger, 1887) (Tshikolovets 1997: 38).

p. 492

Vacciniina kwaja Evans, 1932 = ***Plebejus (Vacciniina) kwaja* (Evans, 1932)**

Lectotype, male: "V. kwaja ♂ R"

Paralectotype, male: "V. kwaja ♂ V"

Vacciniina rutilans Staudinger, 1886 = ***Plebejus (Vacciniina) rutilans* (Staudinger, 1886)**

Syntype, male: "V. rutilans ♂ R"

Vacciniina iris hanna Evans = ***Plebejus (Vacciniina) iris hanna* (Evans, 1932)**

Lectotype, male: "V. iris hanna ♂ R" and "V. iris hanna ♂ V"

p. 493

Agriades lamases Oberthür, 1910 = ***Plebejus (Lycaeides) lamases* (Oberthür, 1910)**

Lectotype, male: "A. lamases ♂ R"

Paralectotype, male: "A. lamases ♂ V"

Agriades janigena Riley, 1932 [sic!] = ***Polyommatus (Albulina) janigena* (Riley, 1923)**

Lectotype, male: "A. janigena ♂ V"

Paralectotype, female: "A. janigena ♀ R"

p. 493 (figure), p. 494 (text)

Agriades morsheadi Evans, 1922 [sic!] = ***Polyommatus (Albulina) morsheadi* Evans, 1923**

Lectotype, female: "A. morsheadi ♀ R"

p. 494

Agriades luana Evans, 1915 = ***Polyommatus (Agriades) dis luana* (Evans, 1915)**

Lectotype, male: "A. luana ♂ V"

Note: The specimen was figured as "holotype." The taxon proved to be a junior synonym of *Agriades dis* (Grum-Grshimailo, 1891) (Bálint 1999b: 43).

Agriades amphiroe [sic!] Oberthür = ***Polyommatus (Agriades) amphiroe* (Oberthür, 1910)**

Paralectotypes, males: "A. amphiroe [sic!] ♂ R" and "A. ampiroe [sic!] ♂ V"

Agriades dis Grum-Grshimailo, 1891 = ***Polyommatus (Agriades) dis* (Grum-Grshimailo, 1891)**

Holotype, male: "A. dis ♂ V"

p. 495

Aricia astorica Evans, 1925 = ***Polyommatus astorica* (Evans, 1925)**

Lectotype (of *astorica* Tytler), male "A. astorica [sic!] ♂ V"

Paralectotype (of *astorica* Tytler), male: "A. astorica [sic!] ♂ V"

Note: Evans unintendly introduced the name on the basis of Tytler's list and notes. Tytler published his name one year later. There are in the BMNH three male "astorica" specimens from the Evans collection, these are the syntypes of the taxon. D'Abrera selected specimens from the Tytler syntypes for his figures. The two taxa are subjective synonyms, and the senior Evans' name takes the priority (Bálint 1999: 15-16)

Aricia kogistana Grum-Grshimailo, 1888 = ***Plebejus (Eumedonia) kogistana* (Grum-Grshimailo, 1888)**

Lectotype, male: "A. kogistana ♂ R"

Paralectotype, female: "A. kogistana ♀ V"

p. 496

Aricia crassipuncta bassoni Larsen = *Aricia bassoni* Larsen, 1974

Holotype, male: "A. crassipuncta bassoni ♂ R"

Note: The status of the taxon is a constant debate (see Larsen 1995, Ten Hagen & Schurian 1998).

Aricia isaurica dorsum-stellae [sic!] Graves = *Plebejus (Pseudaricia) isaurica dorsumstellae* (Graves, 1923)

Paralectotype, female: "A. isaurica dorsum-stellae ♀ R"

p. 497

Albulina tibetana sp. n.

Holotype, male: "A. tibetana ♂ R"

Paratype, female: "A. tibetana ♀ V"

p. 498

Albulinea chitralensis Tytler, 1926 = *Polyommatus (Albulina) metallica chitralensis* (Tytler, 1926)

Lectotype, male: "A. chitralensis ♂ R"

Paralectotype, male: "A. chitralensis ♂ V"

Paralectotype, female: "A. chitralensis ♀ R"

Albulina chrysopsis Grum-Grshimailo, 1888 = *Polyommatus (Albulina) chrysopsis* (Grum-Grshimailo, 1888)

Lectotype, male: "A. chrysopsis ♂ R"

Paralectotype, male: "A. chrysopsis ♂ V"

Paralectotype, female: "A. chrysopsis ♀ R"

Albulina younghusbandi Elwes, 1906 = *Patricius younghusbandi* (Elwes, 1906)

Lectotype, male: "A. younghusbandi ♂ V"

Paralectotype, male: "A. younghusbandi ♂ R"

p. 499

Polyommatus icadius Grum-Grshimailo, 1890 = *Polyommatus icadius* (Grum-Grshimailo, 1890)

Lectotype, male: "P. icadius ?R"

Paralectotypes, females: "P. icadius ♀ R" and "P. icadius ♀ V"

p. 500

Polyommatus candalus isauricoides Graves = *Polyommatus (Sublysandra) isauricoides* (Graves, 1923)

Lectotype, male: "P. candalus isauricoides ♂ R"

Paralectotype, male: "P. candalus isauricoides ♂ V"

Paralectotype, female: "P. candalus isauricoides ♀ R"

Polyommatus dux Riley, 1926

Holotype, male: "P. dux ♂ R"

Paratype, female: "P. dux ♀ V"

Polyommatus janetae Evans, 1927 = *Polyommatus stoliczkanus janetae* Evans, 1927

Lectotype, male: "P. janetae ♂ R"

Paralectotype, male: "P. janetae ♂ V"

Paralectotype, female: "P. janetae ♀ R"

Polyommatus everesti Riley, 1923

Lectotype, male: "P. everesti ♂ R"

Paralectotype, male: "P. everesti ♂ V"

Paralectotype, female: "P. everesti ♀ R"

p. 501

Polyommatus fraterluci Bálint, ? [nom. nud.] = *Polyommatus fraterluci* Bálint, 1995

Holotype, male: "P. fraterluci ♂ R"

Paratype, male: "P. fraterluci ♂ V"

p. 502 (text), p. 503 (figure)

Polyommatus florenciae Tytler, 1926

Lectotype, male: "P. florenciae ♂ R"

Paralectotype, male: "P. florenciae ♂ V"

Note: The paralectotype of *florenciae* is the holotype of *Agrodiaetus evansi* Forster, 1956. The taxon *florenciae* proved to be junior synonym of *Polyommatus bilucha* (Moore, 1884) (Bálint, 1999b:31)

Polyommatus sp. Balint M/S = *Polyommatus forresti* Bálint, 1992

Holotype, male: "Polyommatus ? sp. Balint M/S ♂ R"

Paratypes, females: "Polyommatus ? sp. Balint M/S ♀ R" and "Polyommatus ? sp. Balint M/S ♀ V"

Polyommatus sp. Balint M/S = *Polyommatus annamaria* Bálint, 1992

Paratypes, females: "Polyommatus ? sp. Balint M/S ♀ R" and "Polyommatus ? sp. Balint M/S ♀ V"

Polyommatus erigone Grum-Grshimailo, 1890 = *Polyommatus erigone* (Grum-Grshimailo, 1890)

Lectotype, male: "P. erigone ♂ R"

Paralectotype, male: "P. erigone ♂ V"

Paralectotype, female: "P. erigone ♀ R"

p. 504

Polyommatus superba Staudinger, 1887 = *Polyommatus (Agrodiaetus) magnificus* (Grum-Grshimailo, 1885)

Lectotype, male: "P. superba ♂ R"

Paralectotype, male: "P. superba ♂ V"

Paralectotype, female: "P. superba ♀ R"

Note: According to Eckweiler & Häuser (1997:160) the taxon *superbus* (Staudinger, 1887) is "probably a synonym or a subspecies of *magnificus*".

Polyommatus dagmara Grum-Grshimailo, 1888 = *Polyommatus (Agrodiaetus) dagmara* (Grum-Grshimailo, 1888)

Lectotype, male: "P. dagmara ♂ R"

Paralectotype, male: "P. dagmara ♂ V"

Paralectotype, female: "P. dagmara ♀ R"

Polyommatus bellona Grum-Grshimailo, 1888 = *Polyommatus bellona* (Grum-Grshimailo, 1888)

Lectotype, male: "P. bellona ♂ R" and "P. bellona ♂ V"

Note: The specimen was figured as "holotype".

p. 505

Polyommatus sarta rupala Tytler = *Polyommatus devanica rupala* Evans, 1925

Lectotype, male: "P. sarta rupala ♂ R"

Paralectotype, male: "P. sarta rupala ♂ V"

Paralectotype, female: "P. sarta sartoides ♀ R"

Note: Evans unintently introduced the name on the basis of Tytler's list and notes. No specimen marked as *rupala* remained from the Evans collection. I have selected the lectotype of Evans' *rupala* as lectotype of Tytler's *rupala*, thus they are objective synonyms (Bálint 1999b: 55–56).

p. 506

Polyommatus bogra Evans, 1932 = *Polyommatus (Agrodiaetus) bogra* Evans, 1932

Lectotype, male: "P. bogra ♂ R"

Paralectotype, male: "P. bogra ♂ V"

Paralectotype, female: "P. bogra ♀ R"

p. 506 (figure), p. 507 (text)

Lysandra ankara Schurian & Hoffman [sic!], ? = *Polyommatus (Lysandra) ossmar ankara* (Schurian & Hofmann, 1983)

Paratype, male: "L. ankara ♂ R"

Melageria daphnis palandokis [sic!] Schurian & Hauser = *Polyommatus (Meleageria) daphnis palandoekis* (Schurian & Häuser, 1981)

Paratype, male: "M. palandokis ♂ R"

Note: The taxon proved to be junior subjective synonym of *Polyommatus daphnis versicolor* (Heyne, 1895) (Hesselbarth et al. 1995: 687).

p. 510

Agrodiaetus atlantica Elwes, 1905 = *Polyommatus atlantica* (Elwes, 1906)

Paralectotype, female: "A. atlantica ♀ R"

Agrodiaetus actis pseudactis Forster = *Polyommatus (Agrodiaetus) firdussi pseudactis* (Forster, 1960)

Paratypes, males: "A. actis pseudactis ♂ R" and "A. actis pseudactis ♂ V"

Paratype, female: "A. actis ♀"

p. 514

Agrodiaetus deebi Larsen, 1974 = *Polyommatus (Agrodiaetus) deebi* (Larsen, 1974)

Paratype, male: "A. deebi ♂ R"

Paratype, female: "A. deebi ♀ V"

Agrodiaetus peilei Bethune-Baker, 1921 = *Polyommatus (Agrodiaetus) peilei* Bethune-Baker, 1921

Lectotype, male: "A. peilei ♂ R"

Paralectotype, male: "A. peilei ♂ V"

Cyaniris semiargus Rottemburg, 1775 = *Polyommatus (Cyaniris) semiargus amurensis* (Tutt, 1909)

Lectotype, male: "C. semiargus ♂ V"

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