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INTRODUCTION

A *thing* is defined as much by what it isn't as by what it is. Nomina Insecta Nearctica is not a catalog. Nor is it even a check list by conventional standards. Rather Nomina Insecta *Nearctica* is a directory of the scientific names applied to the insects of North America. These names include senior synonyms, junior synonyms, junior homonyms, unavailable names (in the sense of the Code of Zoological Nomenclature), and in some cases misspellings and misidentifications. Junior synonyms, homonyms, and so forth, are arranged chronologically under the valid species name. All other levels of organization are alphabetical. Species are arranged alphabetically under the current generic name. Genera are alphabetical within families, and families are arranged alphabetically within orders.

Nomina Insecta Nearctica is not an original piece of scientific research. It is a compilation of the current literature, a snapshot of the current published status of the classification. This check list contains no new combinations or synonomies. No objective replacement names are proposed even for clearly identified junior homonyms. Homonyms without available replacement name are indicated only by brackets. Further clearly wrong arrangements of junior and senior synonyms in the literature are not corrected. For example if a younger name is listed in the literature as the valid name for a species in preference to an older name, the synonomy is given as recorded, although indicated by a question mark. This happens more commonly that you might think.

Although *Nomina Insecta Nearctica* contains the word Nearctic, a more proper definition of the region covered by this publication is North America north of the Mexican border. Significant portions of Mexico are properly part of the Nearctic region. The check list has been limited to north of the Mexican border for practical reasons. Adding the Nearctic portions of Mexico to the list would have made the compilation of the list considerably more difficult, if not nearly impossible. The Mexican border has been used as the standard boundary in the majority of publications from which this list was compiled. Many users of this list will find a politically based division more useful than the more scientific one. Finally the division between the Nearctic and Neotropical zones is nebulous at best, both in the United States and Mexico and the Antillies. Mexico is considered to be entirely Neotropical for purely practical reasons and will be so treated in any future portion of the *Nomina* series covering the Neotropical insect fauna.

Nomina Insecta Nearctica has very specific and limited goals. The ultimate ideal of every systematist is to create a network of printed publications and computer databases containing all known information about every described species in the world. The first step in attaining this Holy Grail of systematics is a listing of the species of the world and of the names that have been applied to them. The *Nomina* series is such a first step and *Nomina Insecta Nearctica* is the part covering the insects of North America, the dominant component (perhaps as much as threefourths) of the flora and fauna of the Nearctic region.

The *Nomina* series has two guiding principles: Stability and utility. Complete stability, of course, is impossible in any developing science, such as systematics, and is not even completely desirable. On the other hand systematics must also consider the needs of the users of systematic systems. Systematics does not happen in isolation nor are systematists the final users of the systems proposed. Therefore the Nomina series will approach classifications from a conservative position and will not adopt major changes in the classification of a group unless or until it meets one or more of two criteria. Is the change necessary to break up polyphyletic or paraphyletic groupings? Has the change gained general acceptance within the systematic and user communities? Users of systematic systems tend to concentrate on primary levels of classification; order, family, genus and species. An unfortunate tendency eixsts these days to break up already monophletic order, family, and generic concepts into smaller and smaller groups. The usual reason given for such subdivision of existing and utilized groupings is that the new groupings more accurately reflect the evolutionary history of the group. It is the

opinion of the editors of the *Nomina* series that the concepts of superfamily, subfamily, tribe, and subgenus exist for just this purpose. We suggest that these subordinate categories be used for refinement of the classification and that order, family, and generic concepts be kept at stable as possible for the user community. The splitting of primary groups will not be followed unless they satisfy one of the two criteria listed above.

Nomina Insecta Nearctica employs only primary groups; Class, Order, Family, Genus, and Species. Subordinate groupings such as Superfamily, Subfamily, Tribe, Subgenus, and Subspecies are not listed in the main body of the directory, although subordinate categories to the subfamily level are given in the classification portion of this publication. Names originally proposed, or currently treated, as subgenera or subspecies are treated as simple synonyms. The absence of subordinate categories in the body of the check list, particularly subgenera and subspecies, is not a statement, positive or negative, about the utility of such categories. Rather subordinate categories are absent for practical reasons implicit in the nature of the Nomina series. The lack of subordinate categories is implicit because Nomina Insecta Nearctica is a dictionary of names. An accurate representation of the evolutionary history of a group is not among the limited goals of the Nomina series nor should it be. Other publications and databases exist, or should exist, for this purpose. In addition the compilers of Nomina Insecta Nearctica are authorities only in their own limited groups and could never satisfactorily produce a phylogentically arranged list. Secondly the addition of subordinate categories would have materially lengthened each volume in the series when the volumes are already enormous. Although information about subordinate categories and phylogenetic arrangements is not given in either the printed version or in the CD-ROM accompanying the series, references to these categories and arrangements can be often be found in the source field of the database contained on the CD-ROM. The source field is discussed later in the introductory material.

Both printed and computer versions of the *Nomina Insecta Nearctica* database have been produced for practical reasons. Printed publications and computer databases have different and complimentary strengths and

weaknesses. A computer database is readily and quickly searched for information. A series of CD-ROMS or online databases occupies far less space than a series of printed volumes (if one ignores the space taken by the computer). A printed publication, on the other hand, is far more portable and easier to use for checking specific names or curating collections. A printed publication is easier on the eyes, is easier to learn to use, and just "feels" better. Some of the weaknesses of "searchability" of the printed publication can be made up for with a thorough indexing of the material such as we have attempted in the printed version.

This volume is divided into three main parts. The first part contains introductory material and an explanation of how to use the volume. This introductory material also contains a synopsis of the current classification of each order to the subfamily level with genera listed alphabetically within each subfamily. Higher categories are listed in "phylogenetic order", the source or sources of the order given in the introduction to this section of the check list. The second section composes the check list proper with an alphabetical arrangement of families with the Coleoptera, genera within each family, and species within each genus. The final portion of the volume consists of two indices. The first index comprises all of the species group names and where to go to find them. The second index contains the genus group names. Because of the alphabetical arrangement employed in the series, no page numbers are employed in the index. Rather for any species group name one finds the family in the body of the list by searching the page footers, then finding the genus, and then finding the valid species. More details on the index are given later in the introductory material.

STRUCTURE OF THE CHECK LIST

The structure of the check list is very simple. The list consists of the primary check list followed by two indexes. All names are arranged alphabetically in the two indices. The body of the check list is arranged alphabetically by family. The genera are listed alphabetically within the family, and the valid species names alphabetically within genera. Junior synonyms, junior homonyms, unavailable names, misspellings, and so forth are listed chronologically under the valid species. A valid species is defined as the senior synonym for a species. A typical portion of the check list, in this case from the Anthicidae, is:

Anthicus Paykull 1798 Omonadus Mulsant and Rey 1866 Syn. Nathicus Casey 1895 Syn. Hemantus Casey 1895 Syn.

Anthicus ancilla Casey 1895 (Anthicus) Anthicus parallelus Casey 1895 Homo. Anthicus casevi Pic 1896 Svn. Anthicus antiochensis Werner 1975 (Anthicus) Anthicus barbatus Werner 1964 (Anthicus) Anthicus bellulus Leconte 1851 (Anthicus) Anthicus minusculus Champion 1890 Syn. Anthicus helvinus Casev 1895 Svn. Anthicus biguttulus Leconte 1851 (Anthicus) Anthicus ovicollis Casey 1895 Syn. Anthicus protectus Casey 1895 Syn. Anthicus cervinus Laferte 1848 (Anthicus) Anthicus bifasciatus Say 1826 Homo. Anthicus bizonatus Laferte 1848 Syn. Anthicus terminalis Leconte 1850 Syn. Anthicus gilensis Casey 1895 Syn. Anthicus seminotatus Casey 1895 Syn. Anthicus comanche Werner 1964 (Anthicus)

The genus begins with the valid generic name followed by a chronological listing in italics of the junior synonyms, junior homonyms, emendations, and so forth, for the genus. The genus, in this case, Anthicus, is followed by the junior synonyms *Omonadus* Mulsant and Rey 1866, Nathicus Casey 1895, and Hemantus Casey 1895. All genus group names are listed without indication of whether or not the genus group name was originally or subsequently treated as a subgenus. If a genus group name was originally proposed as a subgenus, this information is available in the CD-Rom version of the check list if this information was readily available to the compilers of the database. The abbreviation at the end of each synonomy gives the current status of the name.

Syn. - A junior synonym

- **Homo.** A junior homonym. Specific details about the nature of the homonomy are contained in the database and will be available on the CD-ROM version of the check list.
- Unav. An unavailable name, either because the name is a nomen nudum or in some other way fails to satisfy the requirements of the Code of Zoological

Nomenclature. Specific reasons for the unavailability of the name are contained in the database and will be available on the CD-ROM version of the check list. A generic name may also be listed as Unav. if the name has been suppressed by the ICZN in favor of a younger name.

- **Emend.** An emendation. Original orthography is utilized throughout this check list. By the standards of this check list there is no such thing as a justifiable emendation. Emendations are available names. Specific details about the emendation are contained in the database and will be available on the CD-ROM version of the check list.
- Missp. A misspelling. Misspellings are not available names. Specific information about misspellings are contained in the database and will be available on the CD-ROM version of the check list.
- **Misid.** A misidentification. Misidentifications are almost never used in the generic listing, but the possibility is kept for cases requiring them for clarity.

The species group names follow a similar structure. The valid species names are listed alphabetically under the genus name. Junior synonyms, homonyms, emendations, and so forth, are listed chronologically under the valid species name. All species group names are listed as binomials even if the species group name was originally proposed as a subspecific or infrasubspecific category such as subspecies, form, variety, or aberration. The original status of these subspecific and infrasubspecific names is listed in the source field of the database and will be available in the CD-ROM version of the check list. The listing for the valid species *Anthicus cervinus* is:

Anthicus cervinus Laferte 1848 (Anthicus) Anthicus bifasciatus Say 1826 Homo. Anthicus bizonatus Laferte 1848 Syn. Anthicus terminalis Leconte 1850 Syn. Anthicus gilensis Casey 1895 Syn. Anthicus seminotatus Casey 1895 Syn.

The valid name is listed first and in plain text. Junior synonyms, homonyms, at so forth, are in italics, indented, and listed chronologically below the valid species group name.

The valid species group name consists of the current generic name, the species group name, the author, the date of publication, and followed by the original generic name in parentheses. Any field in a name not in the database at the time this check list was published is indicated by the notation **[no entry]**. Although an effort has been made to eliminate all of these [no entry] fields, a few remain because of either time constraints or the unavailability of the literature needed to find the information.

The species group name for both valid names and subordinate names uses original orthography, i.e. the original spelling as used by the author in the original description. The names have not been changed to agree in number and gender with the current generic assignment. For example if the original description listed the name as Anthicus albus Jones 1912 and *albus* was later transferred to the genus *Striata*, the name would be still be listed as Striata albus Jones 1912 (Anthicus). Original orthography is also used for all subordinate names. More will be said about the reasons for using original orthography in a later section of the introduction. The check list, however, supplies all of the information necessary to make the changes in endings if the user so wishes.

Junior synonyms, homonyms, unavailable names, and so forth, are listed chronologically under the valid species name and consist of the the original generic name, species group name, authors, and date. The date given is the actual date of publication. The convention of listing both the puported and actual date of publication, if different, is not used in this check list. The name is followed by an abbreviation indicating the status of the name. These abbreviations are essentially the same as those employed for genus group names.

Svn. -The name is a junior synonym of the valid name. In some cases the abbreviation Syn. may be followed by a question mark in parentheses. The question mark signifies an older species group name than the listed valid name and for which no reason was found in the sources used in compiling this list for its synonomy. Although an effort was made to resolve these problems, some remain and can probably be traced to one of several causes. The name may be a junior homonym but was not listed as such in any of the sources examined by the compilers.

The name may be a misidentification. The systematic literature, and the Coleoptera literature in particular, is plagued with misidentifications listed but not identified as misidentifications. The compilers have tried to eliminate as many of these as possible, but some still remain unidentified. The name may have been treated as a nomen oblitum by the author or authors of the source used in compiling the name, but not specifically stated as such. Finally sometimes the authors of the sources used just didn't want to use the older name. We emphasize that this list is a compilation. Therefore we have not tried to correct these synonomies and simply use the (?) convention to denote the problem.

- **Homo.** The name is a junior homonym. A junior homonym may be a junior primary homonym, a junior secondary homonym, and a former junior secondary homonym. These three types of homonomy cannot be distinguised in the printed check list. However, the database usually contains this information and it will be available on the CD-ROM version of the check list.
- **Emend.** A emendation of a species group name. Original orthography is employed throughout this list. Therefore for the purposes of this check list, there is no such thing as a justified emendation even if the original spelling is patently incorrect. Emendations are available names.
- Missp. A misspelling of a species group name. Misspellings are listed in this check list when they were readily available and identifiable in the sources used during compilation. No special effort, however, was made to find misspellings.
- Unav. The name is unavailable in the sense of the Code of Zoological Nomenclature. Several reasons can exist for a name to be unavailable. Most commonly the name is a nomen nudum or infrasubspecific.
- **Misid.** The name is a misidentification. This category is rarely used in this list and only where absolutely necessary to clarify a particular situation. Listing all misidentifications would be an exercise

in futility in any case. Indeed one of the major exercises in compiling this list was removing all of the misidentifications listed in synonomies as if they were available names.

- **Nomob.** Nomen oblitum. In those cases where the oldest name for a species is listed as a junior synonym and has been treated by the author of the source
- used by the compilers as a nomen oblitum, and if he or she clearly indicated this, the abbreviation Nomob. is used.

ORIGINAL ORTHOGRAPHY

Original orthography has been employed throughout this list whenever possible. Two reasons are advanced for using original orthography.

1. In the opinion of the compilers of the Nomina series, computers will come to play an ever increasing role is keeping track of biosystematic information. The changing of specific endings to reflect the number and gender of the current generic assignment is destabilizing and difficult to keep track of in a computer database such as the one employed in compiling the check lists and databases of the Nomina series. In short computers do no speak Latin nor is there any simple way to make them. A critical element in designing a relational database or distributed database is the choice of a primary field for joining tables in the relationship. None of the standard categories such as genus or species is sufficient. However the combination of the original generic and the species name as originally spelled is invariant over time. For example a field such as ogenus species where ogenus is the original generic name, species is the species group name, and the character " " merely serves to join the two names into a single name does not change with time. Moreover any valid species has one and only one ogenus species because of the laws of homonomy. The name is invariant with time and will not change regardless of later shifts in generic assignment.

2. Changes in the endings of species group names to reflect the number and gender of the current generic assignment of the species has an esthetic value for those brought up speaking a romance language. However, one of the two compilers of the database sees no scientific value in such changes. In addition professional systematists often disagree about the correct endings of species group names. This complication can be avoided by simply not worrying about it. Never the less, if one wishes to conform to the current number and gender provisions of the Code of Zoological Nomenclature, the check list contains all of the information necessary to make such changes. Changes in specific endings to reflect number and gender are not emendations in the sense of the Code of Zoological Nomenclature.

SPECIES AND GENUS GROUP NAMES INDICES

A typical sample from the index of species group names is as follows:

abdominalis White Tricorynus (Anobiidae) Tricorynus abducens Casey Gnypeta (Staphylinidae) Gnypeta *abducens Casey Hippodamia (Coccinellidae) Hippodamia glacialis abducens Casey Hister (Histeridae) Atholus nubilus* abducens Leconte Hormops (Curculionidae) Hormops abductus Horn Agrilus (Buprestidae) Agrilus aberrans White Tricorynus (Anobiidae) Tricorynus *aberti Hatch Bembidion (Carabidae) Bembidion dejectum* aberti Hatch Philonthus (Staphylinidae) Philonthus

A valid species name is indicated by a regular font and a junior synonym, homonym, emendation, and so forth by italics. Use Tricorynus abdominalis White as an example. The entry for a valid name begins with the species group name (abdominalis) followed by the author or authors (White), the original generic name (Tricorynus), the current family assignment in parentheses (Anobiidae), ending with the current generic assignment of the species (Tricorynus). To find this entry in the check list, go to the family in the alphabetical arrangement using the page footers, and then find the current genus in the alphabetical arrangement of genera.

A typical synonym is

abducens Casey Hister (Histeridae) Atholus nubilus

The entry begins with the species group name (abducens) followed by the authors (Casey), the original generic name (Hister), the family (Histeridae), the current generic assignment (Atholus) and the current valid name for this species (nubilus). To find this synonymous name, simply find the current valid name, *Atholus nubilus*, using the same alphabetical procedure given above.

The genus group name index works in the same way as the species group list except that for synonymous names only the valid genus name needs to be listed.

STRUCTURE OF THE DATABASE

Each species group and genus group name consists of a record in a computer database from which the information in this printed publication is drawn. A species group record contains the species name as originally spelled by the author of the name (original orthography), the author or authors of the name, the date of publication, the original generic name used by the describer of the species, and the current status of the name. If a name is the not valid name for a species, the valid name for the species is also listed. In this printed publication the subordinate status of a name is indicated by listing it in italics chronologically beneath the valid name for the species.

The database also includes a breakdown of the distribution of a species by biogeographical region. Biogeographical breakdown is not applicable to *Nomina Insecta Nearctica* because all species occur in the Nearctic Region. Nor will further information on biogeographical regions be available in the accompanying CD-ROM because any further volumes in the *Nomina* series on insects will be compiled by biogeographical region. Any volume in the Nomina series covering a group small enough to be done in a single volume will contain information about occurrence by biogeographical region, the regions depending on whether the organism is terrestrial or marine.

Some fields of the database are internal to the functioning of the database (such as fields for creating relations between tables and a field denoting the current status of the editing process)

and are not listed here. The final field in the database is a general listing of information called "source". The information in this field is not available in the printed publication, but will be given in the CD-ROM version of Nomina Insecta Nearctica released after completion of the published version. The source field contains specific information about the name in question. If the homonymy, e.g. if the name is a junior secondary homonym, what name is it a junior secondary homonym of. Secondly the source field contains a listing of the publication or publications used during the compilation of the database. This "source" might be a printed check list, revision, or any publication including the paper or book in which the name was originally described. The source field can often be used to track down further information about a name or species including its original description, subsequent papers about its biology or distribution, and the like. However the database is a check list and a compilation and is not intended to take the place of catalogs or databases specifically created to provide this type of information.

ENDING DATE FOR THE CHECK LIST

This check list claims to cover all names published prior to June of 1994. This cut-off date corresponds to volume 130 of the **Zoological Record.**

QUALITY CONTROL

Every effort has been made to make the data in this directory has accurate and complete as possible. The compilers of the Nomina Insecta Nearctica series, however, are limited by two important contstraints.

1. *Nomina Insecta Nearctica* is a compilation from the literature, not an original piece of scientific research. Although thousands of hours of were spent checking original descriptions in order to compile correct spellings and original generic names, this checking of original sources, could not be done for all, or even most, or the names listed. Ultimately the quality and accuracy of the list depends upon the sources used in compiling this list. Many of the errors encountered in these sources have been found and corrected during the compilation process, but many still remain. We also recognize that despite both direct and computer assisted proof reading, we will have committed our own mistakes. Entomological Information Services promises to correct such mistakes in the database whenever such mistakes are found or brought to our attention.

2. The *Nomina* series and its publisher, **Entomological Information Services**, is a commercial operation. The company receives no outside funds either public or private. **EIS** depends upon a rigid and rapid schedule of publication for its continued financial existence. Food must be bought and the mortgage paid. A leisurely search for perfection is not possible.

The compilers of Nomina Insecta Nearctica and the Nomina series will be extremely grateful to anyone sending us corrections of any errors in the check lists. These corrections will be immediately added to the database and incorporated in any future revisions. We also strongly encourage everyone to publish lists of corrections and additions to the list consistent with the goals of the series.

It is the intention of **Entomological Information Services** to continuously update the databases used in creating the volumes of the *Nomina* series and to put out updated versions of the checklists when they are needed. It would significantly assist us, and we would be extremely grateful, if authors could send us copies of their publications as they appear in print.

ALTERNATIVE FAMILY NAMES

The purpose of this section is to list some alternative family names the user might encounter in the Coleoptera. This list is not an exhaustive liste of family group names, but is included for the convenience of the readers of the check list. The abbreviation (NA) stands for not North American, i.e. the family is not found in the Nearctic region.

COLEOPTERA FAMILIES

Acanthoceridae [see Ceratocanthidae] (Acanthocnemidae not NA) Acanthoscelidae [see Chrysomelidae] Aclopidae [see Scarabaeidae] Aculagnathidae [see Cerylonidae] Aderidae Adimeridae [see Colydiidae] Aegialiidae [see Scarabaeidae] Aegialitidae [see Salpingidae] Agathidiidae [see Leiodidae] Aglycyderidae [see Belidae] Agnathidiidae [see Leiodidae] Agridae [see Carabidae] Agrypnidae [see Elateridae] Agyrtidae (Alexiidae not NA) Alleculidae [see Tenebrionidae] Amphizoidae Anaspidae [see Scraptiidae] Anaspididae [see Scraptiidae] Anchomenidae [see Carabidae] Anisosphaeridae [see Scydmaenidae] Anistomidae [see Leiodidae] Anobiidae Anommatidae [see Bothrideridae] Anoplodermatidae [see Cerambycidae] Anoplognathidae [see Scarabaeidae] Anthicidae Anthiidae [see Carabidae] Anthonomidae [see Curculionidae] Anthribidae Apatidae [see Bostrichidae] Aphodiidae [see Scarabaeidae] Apionidae [see Brentidae] Apoderidae [see Attelabidae] Apotomidae [see Carabidae] Archeocrypticidae Artematopidae [see Artematopodidae] Artematopodidae Ascleridae [see Oedemeridae] Aspidiphoridae [see Sphindidae] Atratoceridae [see Lymexylidae] Attelabidae Aculognathidae [see Latridiidae] Barididae [see Curculionidae] Belidae (Belohinidae not NA) Bembidiidae [see Carabidae] Biphyllidae

Blapsidae [see Tenebrionidae] (Boganiidae not NA) Boridae Bostrichidae Bostrychidae [see Bostrichidae] Bothrideridae Brachinidae [see Carabidae] Brachyderidae [see Curculionidae] Brachypsectridae Brachypteridae Brachyrhinidae [see Curculionidae] Brachyrrhinidae [see Curculionidae] Brathinidae [see Staphylinidae] Brenthidae [see Brentidae] Brentidae Brontidae [see Silvanidae] Broscidae [see Carabidae] Bruchelidae [see Anthribidae] Bruchidae [see Chrysomelidae] Buprestidae Byrrhidae Byrsopidae [see Curculionidae] Byturidae Calendridae [see Curculionidae] Callirhipidae *Callistidae* [see Carabidae] Calophaenidae [see Carabidae] *Calopidae* [see Oedemeridae] *Calyptomeridae* [see Clambidae] Camiaridae [see Leiodidae] Campylidae [see Elateridae] Cantharidae Carabidae (Caridae not NA) Carphuridae [see Melyridae] *Cassididae* [see Chrysomelidae] Cateretidae [see Brachypteridae] Catogenidae [see Passandridae] Catopidae [see Leiodidae] Catopochrotidae [see Cryptophagidae] Cavicoxidae [see Elateridae] Cavicoxumidae [see Elateridae] (Cavognathidae not NA) Cebrionidae [see Elateridae] Cephaloidae [see Stenotrachelidae] Cephaloplectidae [see Ptiliidae] Cerambycidae Cerasommatidiidae [see Endomychidae] Ceratocanthidae Cerophytidae Cerylidae [see Cerylonidae] Cerylonidae Cetoniidae [see Scarabaeidae] (Chaetosomatidae not NA) (Chalcodryidae not NA) Chauliognathidae [see Cantharidae] Chelonariidae Chiloeidae [see Dryopidae] Chlaeniidae [see Carabidae] Chlamydidae [see Chrysomelidae] Chloevidae [see Leiodidae] Cholevidae [see Leiodidae] Chrysomelidae Cicindelidae [see Carabidae]

Ciidae

Cioidae [see Ciidae] Cisidae [see Ciidae] Cistelidae [see Tenebrionidae] Clambidae *Clavigeridae* [see Staphylinidae] *Cleonidae* [see Curculionidae] Cleridae Clytridae [see Chrysomelidae] *Cnemacanthidae* [see Carabidae] (Cneoglossidae not NA) Coccinellidae Collyridae [see Carabidae] Colonidae [see Leiodidae] Colydiidae *Cononotidae* [see Pyrochroidae] Copridae [see Scarabaeidae] Corvlophidae Corynetidae [see Cleridae] Cossonidae [see Curculionidae] *Cossyphodidae* [see Tenebrionidae] Crioceridae [see Chrysomelidae] (Crowsoniellidae not NA) Cryptocephalidae [see Chrysomelidae] Cryptomeridae [see Eucinetidae] Cryptophagidae Cryptophilidae [see Languriidae] Ctenodactylidae [see Carabidae] Ctenostomidae [see Carabidae] Cucujidae Cupedidae Cupesidae [see Cupedidae] Curculionidae Cyathoceridae [see Lepiceridae] *Cybocephalidae* [see Nitidulidae] Cyladidae [see Brentidae] Cymbionotidae [see Carabidae] Cyphonidae [see Scirtidae] Dacnidae [see Erotylidae] Dacoderidae [see Salpingidae] Dascillidae Dasytidae [see Melyridae] (Decliniidae not NA) Dermestidae Derodontidae Diaperidae [see Tenebrionidae] Dicronychidae [see Elateridae] Diphyllidae [see Biphyllidae] Diphyllostomatidae (Discolomatidae not NA) Discolomidae [see Discolomatidae] Disteniidae [see Cerambycidae] Ditylidae [see Oedemeridae] Dolosidae [see Cerylonidae] Donaciidae [see Chrysomelidae] Doydirhynchidae [see Nemonychidae] (Drylidae not NA) Dryopidae Dryptidae [see Carabidae] Dynastidae [see Scarabaeidae] Dytiscidae Ectrephidae [see Anobiidae] Elacatidae [see Salpingidae] *Elaphridae* [see Carabidae] Elateridae

Elmidae

Elminthidae [see Elmidae] Elodidae [see Scirtidae] Empelidae [see Staphylinidae] Endecatomidae Endomychidae Engidae [see Erotylidae] Engididae [see Erotylidae] Epilachnidae [see Coccinellidae] Erirrhinidae [see Curculionidae] Erotylidae Eubriidae [see Psephenidae] Euchiridae [see Scarabaeidae] Eucinetidae Eucnemidae Eucnemididae [see Eucnemidae] Euglenidae [see Aderidae] Euglenesidae [see Aderidae] Eulichadidae Eumoplidae [see Chrysomelidae] Eurhynchidae [see Brentidae] Eurypalpidae [see Psephenidae] *Eurypogonidae* [see Artematopodidae] Eurystethidae [see Salpingidae] *Euxestidae* [see Cerylonidae]

Elmididae [see Elmidae]

Feronidae [see Carabidae] *Fulcidacidae* [see Chrysomelidae]

Galerucidae [see Chrysomelidae] Ganglbaueriidae [see Oedemeridae] Gehringiidae [see Carabidae] Georissidae [see Hydrophilidae] Georyssidae [see Hydrophilidae] Geotrupidae Glaphyridae Glaresidae Glyptidae [see Carabidae] Gnostidae [see Anobiidae] Gyrinidae

Haliplidae

Halticidae [see Chrysomelidae] Harpalidae [see Carabidae] Helmidae [see Elmidae] Helminthidae [see Elmidae] Helodidae [see Scirtidae] Helopheridae [see Hydrophilidae] Helophoridae [see Hydrophilidae] *Helopidae* [see Tenebrionidae] (Helotidae not NA) Hemipeplidae [see Mycteridae] Heteroceridae *Hiletidae* [see Carabidae] Hispidae [see Chrysomelidae] Histeridae (Hobartiidae not NA) Homalisidae [see Omalisidae] Hybosoridae Hvdraenidae Hydrochidae [see Hydrophilidae] Hydrophilidae Hydroporidae [see Dytiscidae] Hydroscaphidae (Hygrobiidae not NA) Hylophilidae [see Aderidae] Hylurgidae [see Curculionidae] Hyphydridae [see Dytiscidae]

Hypocephalidae [see Cerambycidae] *Hypocopridae* [see Cryptophagidae]

Inopeplidae [see Salpingidae] Ipidae [see Curculionidae] Ithyceridae

(Jacobsoniidae not NA)

Karumiidae [see Dascillidae] *Kateretidae* [see Brachypteridae] *Korynetidae* [see Cleridae]

Laemophloeidae

Lagriidae [see Tenebrionidae] Lamiidae [see Cerambycidae] (Lamingtoniidae not NA) Lamprosomatidae [see Chrysomelidae] Lampyridae Languriidae Laricobiidae [see Derodontidae] Lariidae [see Chrysomelidae] Lathridiidae [see Latridiidae] Latridiidae Lebiidae [see Carabidae] Leiodidae (Lepiceridae not NA) Leptinidae [see Leiodidae] Leptodiridae [see Leiodidae] *Lepturidae* [see Cerambycidae] *Lichadidae* [see Eulichadidae] Lichnidae [see Glaphyridae] Licinidae [see Carabidae] Limnebiidae [see Hydraenidae] Limnichidae Limniidae [see Elmidae] Limulodidae [see Ptiliidae] Liodesidae [see Leiodidae] *Liodidae* [see Leiodidae] Lissomidae [see Elateridae] Lophocateridae [see Trogossitidae] Loriceridae [see Carabidae] Loroceridae [see Carabidae] Lucanidae Ludiidae [see Elateridae] Lutrochidae Lycidae [see Lycidae] *Lyctidae* [see Bostrichidae] Lymexylidae *Lymexylonidae* [see Lymexylidae] Lyttidae [see Meloidae]

Malachiidae [see Melyridae] Malacodermidae [see Lampyridae] Malalopidae [see Chrysomelidae] Mantichoridae [see Carabidae] Masoreidae [see Carabidae] Megacephalidae [see Carabidae] Megalopidae [see Megalopodidae] Megalopodidae Megascelidae [see Chrysomelidae] Megatomidae [see Dermestidae] Melandryidae Melanodidae [see Carabidae] Melanophthalmidae [see Latridiidae] Melasidae [see Eucnemidae] Meloidae Melolonthidae [see Scarabaeidae]

Melyridae Merophysiidae [see Endomychidae] Merycidae [see Zopheridae in part; see Ulodidae in part] Metriidae [see Carabidae] Micromalthidae Micropeplidae [see Staphylinidae] Microsporidae Migadopidae [see Carabidae] Monocrepidiidae [see Elateridae] Monoedidae [see Colydiidae] Monommatidae Monommidae [see Monommatidae] Monotomatidae [see Monotomidae] Monotomidae Mordellidae Murmidiidae [see Cerylonidae] Mycetaeidae [see Endomychidae] Mycetophagidae Mycteridae *Mylabridae* [see Chrysomelidae] Myloechinae [see Leiodidae] Nacerdidae [see Oedemeridae] Nebriidae [see Carabidae] *Necrophoridae* [see Silphidae] Nemenychidae [see Nemonychidae] Nemonychidae Nemosomidae [see Trogossitidae] Nilionidae [see Tenebrionidae] Niponidae [see Histeridae] Niponiidae [see Histeridae] Nitidulidae Nosodendridae Noteridae Notiophygidae [see Discolomatidae] Notoxidae [see Anthicidae] Ochodaeidae Odacanthidae [see Carabidae] Oedemeridae Omalidae [see Staphylinidae] (Omalisidae not NA) Omalysidae [see Omalisidae] Omethidae Ommadidae [see Ommatidae] Ommatidae Omophronidae [see Carabidae] Orphnidae [see Scarabaeidae] Orsodacnidae Orthoceridae [see Colydiidae] Orthogoniidae [see Carabidae] Orthoperidae [see Corylophidae] Ostomatidae [see Trogossitidae] Ostomidae [see Trogossitidae] Othniidae [see Salpingidae] Otiorhynchidae [see Curculionidae] Oxycorynidae [see Belidae] Oxypeltidae [see Cerambycidae] Oxytelidae [see Staphylinidae] Ozaenidae [see Carabidae]

Pahypodidae [see Scarabaeidae] Panagaeidae [see Carabidae] Parandridae [see Cerambycidae] Parnidae [see Dryopidae] Passalidae Passandridae Patrobidae [see Carabidae]

Paussidae [see Carabidae] Pedilidae [see Pyrochroidae] Peleciidae [see Carabidae] Pelobiidae [see Hygrobiidae] Peltasticidae [see Derodontidae] *Peltidae* [see Trogossitidae] Pentagonicidae [see Carabidae] Pericalidae [see Carabidae] Perigonidae [see Carabidae] (Perimylopidae not NA) Perothopidae [see Eucnemidae] Petriidae [see Tenebrionidae] Phaenocephalidae [see Phalacridae] Phaenomeridae [see Scarabaeidae] Phaenomerididae [see Scarabaeidae] Phalacridae Phengodidae (Phloiophilidae not NA) Phloeophilidae [see Phloiophilidae] (Phloeostichidae not NA) Phloephilidae [see Melyridae] Phreatodytidae [see Noteridae] (Phycosecidae not NA) Phylloceridae [see Eucnemidae] Pilipalpidae [see Pyrochroidae] Pimeliidae [see Tenebrionidae] (Plastoceridae not NA) Platostomatidae [see Anthribidae] Platypidae [see Curculionidae] Platypodidae [see Curculionidae] *Platypsyllidae* [see Leiodidae] Platystomidae [see Anthribidae] Platyrhinidae [see Anthribidae] Pleocomidae (Podabrocephalidae not NA) Prionidae [see Cerambycidae] (Prionoceridae not NA) (Propalticidae not NA) Prostomidae Proterhinidae [see Belidae] Proterrhinidae [see Belidae] (Protocucujidae not NA) Protorhinidae [see Curculionidae] Psallidiidae [see Curculionidae] Pselaphidae [see Staphylinidae] Psephenidae Psephenoididae [see Psephenidae] Pseudomorphidae [see Carabidae] Psoidae [see Bostrichidae] Psydridae [see Carabidae] Pterocolidae [see Attelabidae] (Pterogeniidae not NA) Pterostichidae [see Carabidae] Ptiliidae Ptilodactylidae Ptinidae [see Anobiidae] Pyrochroidae Pyrophoridae [see Elateridae] Pythidae Rhadalidae [see Melyridae] Rhagophtalmidae [see Phengodidae]

Rhagophtalmidae [see Phengodidae] Rhinomaceridae [see Nemonychidae] (Rhinorhipidae not NA) Rhipiceridae Rhipidoceridae [see Rhipiceridae] Rhipiphoridae Rhissodidae [see Rhysodidae] Rhizophagidae [see Monotomidae] Rhynchitidae [see Attelabidae] Rhynchophoridae [see Curculionidae] Rhysodidae Rhysopaussidae [see Tenebrionidae] Rutelidae [see Scarabaeidae] Sagridae [see Chrysomelidae] Salpingidae Sandalidae [see Rhipiceridae] Sarothriidae [see Jacobsoniidae] Scalidiidae [see Passandridae] Scaphidiidae [see Staphylinidae] Scarabaeidae Scaritidae [see Carabidae] Schizopidae [see Buprestidae] Scirtidae Scolytidae [see Curculionidae] Scraptiidae Scydmaenidae *Serropalpidae* [see Melandryidae] Siagonidae [see Carabidae] Sibynidae [see Curculionidae] Silphidae Silvanidae Smicripidae Sogdiidae [see Leiodidae] Sparedridae [see Oedemeridae] Spercheidae [see Hydrophilidae] Spermophagidae [see Chrysomelidae] Sphaeridiidae [see Hydrophilidae] *Sphaeriidae* [see Microsporidae] Sphaeritidae Sphaerosomatidae [see Alexiidae] Sphaerosomidae [see Alexiidae] Sphindidae Spondylidae [see Cerambycidae] Spondylididae [see Cerambycidae] Staphylinidae Stenidae [see Staphylinidae] Stenostomatidae [see Oedemeridae] Stenotrachelidae Syncalyptidae [see Byrrhidae] Synchroidae (Svnteliidae not NA) Tachyporidae [see Staphylinidae] Taurocerastidae [see Geotrupidae] Telegeusidae Telephoridae [see Cantharidae] Temnochilidae [see Trogossitidae] Tenebrionidae Tentyriidae [see Tenebrionidae] Tetraonycidae [see Meloidae] Tetraonychidae [see Meloidae] Tetraphateridae [see Ommatidae] Tetratomidae Tetropiidae [see Cerambycidae] Thorictidae [see Dermestidae] Thrachypachyidae [see Trachypachidae] Threopteridae [see Carabidae] Throscidae

Thylodriidae [see Dermestidae] Tillidae [see Cleridae] Tomicidae [see Curculionidae] (Torridincolidae not NA) (Trachelostenidae not NA) Trachypachidae Trechidae [see Carabidae] Tretothoracidae [see Salpingidae] Trichopterygidae [see Ptiliidae] (Trictenotomidae not NA) Trixagidae [see Throscidae] Trogidae Trogossitidae Trogossitidae [see Trogossitidae]

(**Ulodidae** not NA) *Urodontidae* [see Anthribidae]

Vesperidae [see Cerambycidae]

Xylophilidae [see Aderidae]

Zarudniolidae [see Dascillidae] Zopheridae Zuphiidae [see Carabidae]

STREPSIPTERA FAMILIES

Callipharixenidae [see Stylopidae] Dioxoceridae [see Stylopidae] Elenchidae [see Stylopidae] Halictophagidae [see Stylopidae] Hylechthridae [see Stylopidae] Mengeidae [see Stylopidae] Myrmecolacidae [see Stylopidae] Stichotrematidae [see Stylopidae] Stylopidae Xenidae [see Stylopidae]