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# A CATALOG OF THE COLEOPTERA OF AMERICA NORTH OF MEXICO

FAMILY: LIMNICHIDAE

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FAMILIES OF COLEOPTERA IN AMERICA NORTH OF MEXICO

<i>Fascicle</i> <sup>1</sup>	<i>Family</i>	<i>Year issued</i>	<i>Fascicle</i> <sup>1</sup>	<i>Family</i>	<i>Year issued</i>	<i>Fascicle</i> <sup>1</sup>	<i>Family</i>	<i>Year issued</i>
1	Cupedidae	1979	45	Chelonariidae		98	Endomychidae	
2	Micromalthidae	1982	46	Callirhipidae		100	Lathridiidae	
3	Carabidae		47	Heteroceridae	1978	102	Biphylidae	
4	Rhysodidae	1985	48	Limnichidae	1986	103	Byturidae	
5	Amphizoidae	1984	49	Dryopidae	1983	104	Mycetophagidae	
6	Haliplidae		50	Elmidae	1983	105	Ciidae	1982
8	Noteridae		51	Buprestidae		107	Prostomidae	
9	Dytiscidae		52	Cebrionidae		109	Colydiidae	
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43	Artematopidae		96	Corylophidae		145	Fossil Coleoptera	
44	Ptilodactylidae		97	Coccinellidae				

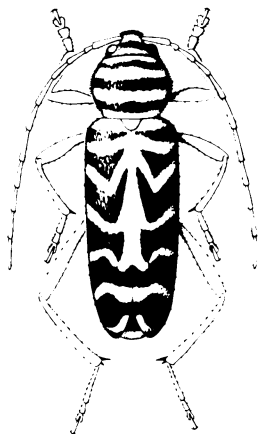
<sup>1</sup> Missing numbers are those assigned in the computer program to families not found in the United States and Canada.

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# A CATALOG OF THE COLEOPTERA OF AMERICA NORTH OF MEXICO

FAMILY: LIMNICHIDAE

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UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

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January 1986



## FOREWORD

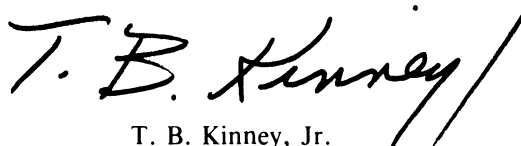
Many species of beetles are important pests of agricultural crops, stored food products, forests, wood products and structures, and fabrics. Many other species, in contrast, are beneficial in the biological suppression of pest arthropods and weeds, as well as in the decomposition of plant detritus, animal carcasses, and dung. Part of our national responsibility to American agriculture is to provide correct identification of species of American beetles so that appropriate controls can be applied.

Most information about animal species, whether agricultural, biological, or experimental, is filed under the species' scientific names. These names are therefore the keys to retrieval of such information. Because some species have been known by several names, a complete listing of these names for each species is necessary.

For the user of scientific names, an up-to-date taxonomic catalog providing currently accepted names and pertinent bibliographic and distributional data is an indispensable tool. Although taxonomic literature is constantly changing to reflect current work, the traditional published taxonomic catalog remains static with updating left to the individual user until it is revised. Production of catalogs in the past has been laborious with long printing delays resulting in data that are obsolete before being published. However, the computer now provides the capability of storing, updating, and retrieving taxonomic data; rapid publication through computer-driven typesetting machinery; and a greater degree of currentness and flexibility.

All 124 fascicles in this catalog of the beetles of America north of Mexico are produced by an original group of computer programs, designed and written during a pilot project by personnel of the Systematic Entomology Laboratory and the Communications and Data Services Division, Agricultural Research Service.

The published information is stored on computer tape, is updated periodically to reflect taxonomic progress in the family, and is available in a data base for computer searching.



T. B. Kinney, Jr.  
Administrator  
Agricultural Research Service



## PREFACE

The Coleoptera, or beetles, are represented in the world by about 220,000 described species, of which about 24,000 occur in the United States and Canada. A comprehensive taxonomic catalog of beetles for this area has not been available except the series of world-based "Coleopterorum Catalogus" volumes (1909–present, Junk, Berlin). The Leng "Catalogue of the Coleoptera of America North of Mexico" (J. D. Sherman, Jr., Mt. Vernon, NY), which was published in 1920 with supplements to the end of 1947, is a checklist. However, it has served professional and amateur alike for nearly 60 years as the principal source of scientific names of beetles. Since 1947, many new taxa have been described and many changes in status and nomenclature have appeared in numerous scattered publications, but little effort has been made to summarize these changes.

This catalog will supplant the Leng catalog and supply additional essential information. It is produced by an original suite of storage, retrieval, and printing programs written especially for automated taxonomic catalogs.

The catalog for each family is published as a separate fascicle with its introductory text, bibliography, and index. Each family is numbered as listed, but the order of issuance of fascicles is not necessarily in numerical sequence. The publishing of separate fascicles makes data available shortly after they are assembled. Computer tapes for each fascicle are maintained for updating and necessary reprinting.

The information on each family is the responsibility of the respective author or authors. The editors modify it only to correct obvious errors and to make it conform to the requirements of the computer programs.

No original proposal for a new name, taxon, status, or classification is given, such data having been previously published, but new host and distributional data are often listed. The rules of "The International Code of Zoological Nomenclature" are followed.

The geographic scope of this catalog includes the continental United States, Canada, Alaska, Greenland, and the associated continental islands. Names of taxa found only in other regions are excluded. If the range of a species extends outside these geographic limits, this fact is indicated. Inside the back cover is a map of the 12 faunal regions based on historical and faunal criteria to simplify distribution recordings. Two-letter Postal Service style abbreviations are used for States and Provinces, and faunal regions are indicated in each distribution record by a diagonal line between groups of abbreviations.

It is not the purpose of this catalog to present a complete scheme of higher classification within the order. The familial makeup is somewhat intermediate between that of R. H. Arnett in "The Beetles of the United States" (1960–62, Catholic University Press, Washington, DC) and that of R. A. Crowson in "The Natural Classification of the Families of Coleoptera" (1967, Biddles Ltd., Guildford, England). Modifications of these two systems are largely those advocated by J. F. Lawrence based in part on suggestions by taxonomic specialists for certain families.

Generic groups and higher categories within the family are arranged phylogenetically as indicated by the author of the particular fascicle, and species group names with their respective synonyms are arranged alphabetically.

Names referable to *incertae sedis* and *nomen dubium* are listed separately at the end of the nearest applicable taxon with notations as to their status.

Each available name is followed by its author, date proposed, and page number referring to the complete bibliographic citation containing the original description. Following each generic name are

the type-species and method of its designation, necessary explanatory notes, and pertinent references on immature stages, taxonomy, redescription, ecology, and keys. After the specific name entry are the original genus (if different from the present placement), type-locality, geographical distribution by State, Province, and broad extralimital units, explanatory notes, pertinent references to immature stages, taxonomy, redescription, and ecology, depository of type-specimen and its sex, and hosts.

In addition to the list under the map of faunal regions (inside back cover), the following abbreviations are used in this catalog:

#### ABBREVIATIONS, GENERAL

Amer. Bor.—America Borealis  
 Amer. Sept.—America Septentrionalis  
 Autom.—Automatic  
 C. Amer.—Central America  
 Co.—County  
 Cosmop.—Cosmopolitan  
 Design.—Designated  
 F.—Female  
 Holarc.—Holarctic  
 Isl.—Island  
 M.—Male  
 Mex.—Mexico  
 Monot.—Monotypy

Mus.—Museum  
 N. Amer.—North America  
 Orig. des.—Original designation  
 Preocc.—Preoccupied  
 S. Amer.—South America  
 Sp.—Species  
 Subseq. monot.—Subsequent monotypy  
 Subsp.—Subspecies  
 Taut.—Tautonymy  
 Univ.—University  
 USA—United States of America  
 Var.—Variety  
 W. Ind.—West Indies

#### MUSEUMS IN THE CONTINENTAL UNITED STATES, CANADA, AND HAWAII<sup>1</sup>

AMNH—American Museum of Natural History, New York  
 ANSP—Academy of Natural Sciences, Philadelphia, PA  
 BPBM—Bernice P. Bishop Museum, Honolulu  
 BYUC—Brigham Young University, Provo, UT  
 CASC—California Academy of Sciences, San Francisco  
 CISC—University of California, Berkeley  
 CNCI—Canadian National Collections, Ottawa  
 CUIC—Cornell University, Ithaca, NY  
 CWOB—C. W. O'Brien Collection, Tallahassee, FL  
 DHKC—D. H. Kistner Collection, Chico State College, CA  
 ELSC—E. L. Sleeper Collection, Long Beach, CA  
 FMNH—Field Museum of Natural History, Chicago, IL

FSCA—Florida State Collection, Gainesville  
 HAHC—H. & A. Howden Collection, Ottawa, Canada  
 ICCM—Carnegie Museum, Pittsburgh, PA  
 INHS—Illinois Natural History Survey, Urbana  
 JGEC—J. G. Edwards Collection, San Jose, CA  
 KMFC—K. M. Fender Collection, McMinnville, OR  
 KSUC—Kansas State University, Manhattan  
 LACM—Los Angeles County Museum, CA  
 LSUC—Louisiana State University, Baton Rouge  
 MCZC—Museum of Comparative Zoology, Harvard University, Cambridge, MA  
 MSUC—Michigan State University, East Lansing  
 NCSM—North Carolina State University, Raleigh  
 NYSM—New York State Museum, Albany  
 OSEC—Oklahoma State University, Stillwater  
 OSUC—Ohio State University, Columbus  
 OSUO—Oregon State University, Corvallis

<sup>1</sup> Abbreviations for U.S. and Canadian museums abridged from Arnett, R. H., Jr., and Samuelson, G. A., 1969, "Directory of Coleoptera Collections of North America (Canada Through Panama)," Cushing-Malloy, Ann Arbor, MI, 123 pp.



PMNH—Peabody Museum, Yale University, New Haven, CT  
PSUC—Pennsylvania State Museum, University Park  
PURC—Purdue University, West Lafayette, IN  
RUIC—Rutgers University, New Brunswick, NJ  
SEMC—Snow Museum, University of Kansas, Lawrence  
SJSC—San Jose State College, CA  
SLWC—S. L. Wood Collection, Provo, UT

SMSH—Stovall Collection, University of Oklahoma, Norman  
TAMU—Texas A. & M. University, College Station  
UCDC—University of California, Davis  
UICM—University of Idaho, Moscow  
UMMZ—University of Michigan, Ann Arbor  
UMRM—University of Missouri, Columbia  
USNM—U.S. National Museum of Natural History, Washington, DC  
WSUC—Washington State University, Pullman

#### MUSEUMS IN FOREIGN COUNTRIES

BMNH—British Museum (Natural History), London  
GUHC—Glasgow University, Hunterian College, Scotland  
HMOX—Hope Museum, Oxford, England  
HNHM—Hungarian Natural History Museum, Budapest  
IPZE—Institut Pflanzenschutzforschung Zweigstelle, Eberswalde, East Germany  
IRSB—Institut Royal Sciences Belgique, Brussels  
MFNB—Museum für Naturkunde (Humboldt), Berlin  
MGFT—Museum G. Frey, Tutzing, Munich, West Germany  
MHNL—Museum d'Histoire Naturelle, Lyon, France  
MNHP—Museum National d'Histoire Naturelle, Paris  
MNSL—Museum of Natural Sciences, Leipzig, East Germany  
MZBS—Museum Zoologia, Barcelona, Spain  
NHRS—Naturhistoriske Riksmuseet, Stockholm

NMPC—Narodni Museum, Prague, Czechoslovakia  
SCUT—Spinola College, University of Turin, Italy  
SMTD—Staatliches Museum für Tierkunde, Dresden, East Germany  
UNAM—Universidad Nacional Autonoma, Mexico City  
UZMC—University Zoological Museum, Copenhagen, Denmark  
UZMH—University Zoological Museum, Helsinki, Finland  
ZMAS—Zoological Museum, Academy of Sciences, Leningrad  
ZMPA—Zoological Museum, Polish Academy of Sciences, Warsaw  
ZMUL—Zoological Museum, University of Lund, Sweden  
ZMUM—Zoological Museum, University of Moscow  
ZSBS—Zoologische Sammlung Bayerischen Staates, Munich, West Germany

## ACKNOWLEDGMENTS

We are indebted to many individuals who contributed to the planning and development of this catalog. We are especially grateful to the following specialists who helped to make it as complete and accurate as possible: Richard H. Foote, Systematic Entomology Laboratory (SEL), Agricultural Research Service (ARS), for his suggestions, guidance, and encouragement; C. W. Sabrosky, SEL., for valuable counsel on nomenclatural problems; J. F. Lawrence, Division of Entomology, Commonwealth Scientific and Industrial Research Organization, Canberra, Australia, for his recommendations on higher categories; and more than 50 coleopterists in Canada, the United States, and Mexico for voluntarily contributing information about their specialty groups.

We thank the following members of the Communications and Data Services Division, ARS: Sandra Strauss and Marianne Kingston for designing and writing the computer programs, and Margaret Seldin for developing the editing system.

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## Family LIMNICHIDAE

By David P. Wooldridge

The Limnichidae consists of approximately 220 species in about 35 genera and 4 subfamilies worldwide. Of these, 2 subfamilies, 7 genera, and 31 species occur in America north of Mexico. The family was first erected by Erichson (1847) as a tribe in the Byrrhidae, which many species resemble in the way the head and legs are retracted in repose. The Limnichidae differs from the Byrrhidae in having a large, distinct clypeal suture and clypeus. The tribe was raised to family rank by Thomson (1860), but subsequent classifications usually left the group with the Byrrhidae as a tribe or subfamily. Hinton (1939a), after a study of the internal anatomy of the groups, reestablished the family Limnichidae, removed it from the Byrrhoidea, and placed it in the Dryopoidea. At the same time, he placed in the Limnichidae the genera *Lutrochus* and *Throscinus*, which had been considered to be either dryopids or elmids. Some anatomical evidence still indicates that *Lutrochus* may belong elsewhere, perhaps as a separate family.

The first species of North American Limnichidae were described in the Old World genus *Limnichus* Latreille, 1829, by LeConte (1854), who described *Physemus* at the same time. Several more *Limnichus* species were added by LeConte in 1879. In 1889, Casey described a number of North American species, creating four subgenera of *Limnichus*. Sharp (1902), following a recent catalog, considered these subgenera as genera, and Casey (1912) accepted the change in describing several more species. Most subsequent works treating the family have ignored Casey's genera although they are well characterized and easy to recognize. No further species were described from North America until the recent series by Wooldridge (1975 and following), who accepted Casey's genera as valid.

Little is known of the biology and habits of most species. They seem to be riparian rather than truly aquatic. *Physemus* is frequently taken on mudflats, and adults of most genera have been found crawling near the waterline on rocks and debris. Adults of *Eulimnichus* have been taken on flowers of *Eupatorium*, and one tropical genus is commonly found under bark of decaying logs. Many also come readily to blacklight traps. Immature stages are unknown for most species, but the larval stages of two European species and the pupa of one have been described (Paulus, 1970). The larvae of these are terrestrial, living in tunnels in soil under layers of algae or mosses that serve as food. The pupa described seems to be intermediate between those of the Elmidae and Dryopidae.

This manuscript was received January 1982.

### Subfamily LIMNICHINAE Erichson, 1847

Classification: Hinton, 1939a and 1939b; Wooldridge, 1975.

Larval stages: Paulus, 1970.

### Tribe LIMNICHINI Erichson, 1847

Classification: Casey, 1912.

#### Genus LIMNICHODERUS Casey

**Limnichoderus** Casey, 1889: 146 (as subgenus of *Limnichus* Latreille). Type-species: *Limnichus ovatus* LeConte (design. by Casey, 1912: 39).

TAXONOMY: Wooldridge, 1981a: 171.

REDESCRIPTION: Wooldridge, 1981a: 171.

KEYS: Wooldridge, 1981a: 172.

**lutrochinus** (LeConte), 1879: 515 (*Limnichus*) (lectotype designated by Wooldridge, 1981a). TX; CA/ IL/ AZ TX OK/ Mex., C. Amer.

TYPE DEPOSITORY: MCZC.

*indiscretus* Sharp, 1902: 678 (lectotype designation and synonymy by Wooldridge, 1981a). Guatemala: Duenas.

TYPE DEPOSITORY: BMNH.

*lanosus* Casey, 1912: 55 (synonymy by Wooldridge, 1981a). TX.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1981a: 187.

REDESCRIPTION: Wooldridge, 1981a: 187.

**naviculatus** (Casey), 1889: 156 (*Limnichus*) (lectotype designated by Wooldridge, 1981a). TX; CA NV/ AZ NM TX OK/ Mex., C. Amer.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1981a: 177.

REDESCRIPTION: Wooldridge, 1981a: 177.

**ovatus** (LeConte), 1854: 117 (*Limnichus*) (lectotype designated by Wooldridge, 1981a). GA; TX/ LA AL SC NC/ Mex.

TYPE DEPOSITORY: MCZC.

**pulvereus** Casey, 1912: 54 (lectotype designation and synonymy by Wooldridge, 1981a). TX: Columbus.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1981a: 186.

REDESCRIPTION: Wooldridge, 1981a: 186.

**punctiventris** (Casey), 1889: 159 (*Limnichus*) (lectotype designated by Wooldridge, 1981a). FL: Capron; FL.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1981a: 182.

REDESCRIPTION: Wooldridge, 1981a: 182.

**seriatus** (Casey), 1889: 158 (*Limnichus*). FL: Capron; VA/ LA MS AL GA SC NC FL.

**floridanus** Casey, 1912: 55 (lectotype designation and synonymy by Wooldridge, 1981a). FL.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1981a: 184.

REDESCRIPTION: Wooldridge, 1981a: 184.

### Genus LICHMINUS Casey

**Lichminus** Casey, 1889: 146 (as subgenus of *Limnichus* Latreille). Type-species: *Limnichus tenuicornis* Casey (monot.).

**tenuicornis** (Casey), 1889: 155 (*Limnichus*). CA: Humboldt Co., Hoopa Valley; WA OR/ CA.

TYPE DEPOSITORY: USNM.

TAXONOMY: Casey, 1912.

REDESCRIPTION: Casey, 1912.

### Genus EULIMNICHUS Casey

**Eulimnichus** Casey, 1889: 146 (as subgenus of *Limnichus* Latreille). Type-species: *Limnichus obscurus* LeConte (design. by Casey, 1912: 38).

TAXONOMY: Wooldridge, 1978 and 1979.

REDESCRIPTION: Wooldridge, 1978.

KEYS: Wooldridge, 1979.

**analis** (LeConte), 1879: 515 (*Limnichus*) (lectotype designated by Wooldridge, 1978). TX; WA OR/ CA/ UT CO/ MO/ AZ TX/ AR/ Mex.

TYPE DEPOSITORY: MCZC.

**analis coloradensis** Casey, 1912: 47 (as subspecies). CO: Denver.

TYPE DEPOSITORY: USNM.

**analis rugiceps** Casey, 1912: 47 (as subspecies). AZ: Riverside.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1978: 168.

REDESCRIPTION: Wooldridge, 1978: 168.

**ater** (LeConte), 1854: 117 (*Limnichus*) (lectotype designated by Wooldridge, 1978). MS; IN/ MA/ TX/ LA MS GA SC NC FL/ Mex., C. Amer., S. Amer., W. Ind.

TYPE DEPOSITORY: MCZC.

**guatemalicus** Sharp, 1902: 676 (synonymy by Wooldridge, 1978). Guatemala: Panzos, Vera Paz.

TYPE DEPOSITORY: BMNH.

*sculpticeps* Casey, 1912: 50 (synonymy by Wooldridge, 1978). RI.

TYPE DEPOSITORY: USNM.

*oblongus* Pic, 1922: 4 (*Limnichoderus*) (synonymy by Wooldridge, 1978; lectotype designated by Wooldridge, 1978). Brazil: Mato Grosso.

TYPE DEPOSITORY: MNHP.

TAXONOMY: Wooldridge, 1978: 166.

REDESCRIPTION: Wooldridge, 1978: 166.

*californicus* (LeConte), 1879: 515 (*Limnichus*) (lectotype designated by Wooldridge, 1978). CA: Los Angeles; OR/ CA.

TYPE DEPOSITORY: MCZC.

TAXONOMY: Wooldridge, 1978: 168.

REDESCRIPTION: Wooldridge, 1978: 168.

*evanescens* Casey, 1912: 48 (lectotype designated by Wooldridge, 1978). Southern CA; CA.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1978: 172.

REDESCRIPTION: Wooldridge, 1978: 172.

*improcerus* Wooldridge, 1979: 4. MA: Dracut(?); MA.

TYPE DEPOSITORY: MCZC.

SEX OF TYPE: F.

*montanus* (LeConte), 1879: 514 (*Limnichus*) (lectotype designated by Wooldridge, 1978). CO: La Veta; OR/ CA/ CO/ AZ NM/ Mex.

TYPE DEPOSITORY: MCZC.

*laeticulus* Sharp, 1902: 674 (synonymy by Wooldridge, 1978). Mex.: Mexico City. The type-locality also includes Paso Antonio, San Geronimo, Guatemala.

TYPE DEPOSITORY: BMNH.

TAXONOMY: Wooldridge, 1978: 167.

REDESCRIPTION: Wooldridge, 1978: 167.

*nitidulus* (LeConte), 1854: 117 (*Limnichus*) (lectotype designated by Wooldridge, 1978). GA; MO IN/ PA VA/ ME NH/ AL GA SC NC FL/ Mex., C. Amer., S. Amer.

TYPE DEPOSITORY: MCZC.

TAXONOMY: Wooldridge, 1978: 166.

REDESCRIPTION: Wooldridge, 1978: 166.

*obscurus* (LeConte), 1854: 116 (*Limnichus*) (lectotype designated by Wooldridge, 1978). NY; KS IL IN/ NY MD DC VA/ TX/ MS TN NC.

TYPE DEPOSITORY: MCZC.

TAXONOMY: Wooldridge, 1978: 164.

REDESCRIPTION: Wooldridge, 1978: 164.

*optatus* Sharp, 1902: 675 (lectotype designated by Wooldridge, 1978). Mex.; TX/ LA AL GA/ Mex.

TYPE DEPOSITORY: BMNH.

TAXONOMY: Wooldridge, 1978: 171.

REDESCRIPTION: Wooldridge, 1978: 171.

*perpolitus* (Casey), 1889: 147 (*Limnichus*) (lectotype designated by Wooldridge, 1978). NM: Albuquerque; CA/ AZ NM.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1978: 171.

REDESCRIPTION: Wooldridge, 1978: 171.

*rugulosus* Wooldridge, 1979: 6. IL: Lake Co.; WI MI/ IL.

TYPE DEPOSITORY: INHS.

SEX OF TYPE: M.

*subitus* Wooldridge, 1979: 8. AL: Mobile; AL FL.

TYPE DEPOSITORY: MCZC.

SEX OF TYPE: M.

## Genus LIMNICHITES Casey

**Limnichites** Casey, 1889: 146 (as subgenus of *Limnichus* Latreille). Type-species: *Limnichus punctatus* LeConte (design. by Casey, 1912: 38).

TAXONOMY: Wooldridge, 1977: 179.

KEYS: Wooldridge, 1977: 179.

**foraminosus** Casey, 1912: 43. TX: Columbus; OR/ CA/ UT/ AZ NM TX/ Mex.

TYPE DEPOSITORY: USNM.

SEX OF TYPE: M.

TAXONOMY: Wooldridge, 1977: 187.

REDESCRIPTION: Wooldridge, 1977: 187.

**huronicus** Casey, 1912: 43 (lectotype designated by Wooldridge, 1977). MI: Detroit; MI ON/ IL/ MA.

TYPE DEPOSITORY: USNM.

SEX OF TYPE: F.

TAXONOMY: Wooldridge, 1977: 182.

REDESCRIPTION: Wooldridge, 1977: 182.

**nebulosus** (LeConte), 1879: 515 (*Limnichus*) (lectotype designated by Wooldridge, 1977). CA; OR/ CA/ AZ TX OK/ AR/ Mex.

TYPE DEPOSITORY: MCZC.

**densissimus** Casey, 1912: 41. CA: Calveras Co.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1977: 181.

REDESCRIPTION: Wooldridge, 1977: 181.

**olivaceus** (LeConte), 1854: 116 (*Limnichus*) (resurrected name (Wooldridge, 1977)). IL; MI/ IA MO IL IN OH/ PA DC WV VA/ MA CT/ TX OK/ AR AL NC. LeConte (1879) and Casey (1912) considered this a synonym of *L. punctatus*.

TYPE DEPOSITORY: MCZC.

**virginicus** Casey, 1912: 42. VA: Lee Co., Stone Creek.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1977: 184.

REDESCRIPTION: Wooldridge, 1977: 184.

**perforatus** (Casey), 1889: 155 (*Limnichus*). CA; CA/ Mex.

TYPE DEPOSITORY: USNM.

SEX OF TYPE: M.

TAXONOMY: Wooldridge, 1977: 186.

REDESCRIPTION: Wooldridge, 1977: 186.

**punctatus** (LeConte), 1854: 116 (*Limnichus*) (lectotype designated by Wooldridge, 1977). PA; BC/ MN WI MI PQ/ IA IL OH/ NY PA NJ MD DC VA/ ME NH MA/ TX OK/ MS AL GA.

TYPE DEPOSITORY: MCZC.

SEX OF TYPE: F.

**austinianus** Casey, 1912: 4. TX: Austin.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1977: 183.

REDESCRIPTION: Wooldridge, 1977: 183.

## Genus LUTROCHUS Erichson

**Lutrochus** Erichson, 1847: 509. Type-species: *Parnus pilula* Germar (orig. des.).

TAXONOMY: Brown, 1972 (keys: U.S. species).

ECOLOGY: Brown, 1972 (larval and adult).

**arizonicus** Brown and Murvosh, 1970: 1031. AZ: Yavapai Co.; AZ.

TYPE DEPOSITORY: SMSH.

SEX OF TYPE: M.

TAXONOMY: Brown and Murvosh, 1970.

ECOLOGY: Brown and Murvosh, 1970.

**laticeps** Casey, 1893: 580. MI; MI/ MO IL IN OH/ PA MD DC WV/ OK/ AR MS AL TN.

TYPE DEPOSITORY: USNM.

ECOLOGY: Brown, 1972 (larval and adult).

**luteus** LeConte, 1852: 42. Central TX; NM TX OK.

TYPE DEPOSITORY: MCZC.

ECOLOGY: Brown, 1972 (larval and adult).

### Tribe BOTHRIOPHORINI Mulsant and Rey, 1868

Classification: Casey, 1912; Wooldridge, 1976.

#### Genus PHYSEMUS LeConte

**Physemus** LeConte, 1854: 117. Type-species: *Physemus minutus* LeConte (monot.). LeConte attributed the name to Motschulsky who used the name in a catalog; LeConte's is the first valid description.

*Ditaphrus* Casey, 1886: 250. Type-species: *Ditaphrus scymnoides* Casey (monot.) = *minutus* (LeConte).

TAXONOMY: Wooldridge, 1976: 177.

REDESCRIPTION: Wooldridge, 1976: 177.

KEYS: Wooldridge, 1976: 177.

**minutus** LeConte, 1854: 117. CA: Colorado River; CA/ AZ TX/ Mex.

TYPE DEPOSITORY: MCZC.

*scymnoides* Casey, 1886: 250 (*Ditaphrus*). TX.

TYPE DEPOSITORY: USNM.

TAXONOMY: Wooldridge, 1976: 177.

REDESCRIPTION: Wooldridge, 1976: 177.

### Subfamily CEPHALOBYRRHINAE Champion, 1925

Classification: Hinton, 1939a and 1939b; Wooldridge, 1975.

#### Genus THROSCINUS LeConte

**Throscinus** LeConte, 1874: 52. Type-species: *Throscinus crotchi* LeConte (monot.).

TAXONOMY: Wooldridge, 1981b.

KEYS: Wooldridge, 1981b.

**crotchi** LeConte, 1874: 52. CA; CA/ Mex.

TYPE DEPOSITORY: MCZC.

TAXONOMY: Wooldridge, 1981b: 221.

REDESCRIPTION: Wooldridge, 1981b: 221.

**politus** Casey, 1889: 162. TX: Galveston; TX.

TYPE DEPOSITORY: MCZC.

TAXONOMY: Wooldridge, 1981b: 220.

REDESCRIPTION: Wooldridge, 1981b: 220.

**schwarzi** Schaeffer, 1904: 204. TX: Brownsville; TX.

TAXONOMY: Wooldridge, 1981b: 218.

REDESCRIPTION: Wooldridge, 1981b: 218.

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Names are indexed as follows:

**CAPITALS:** All names for taxa above the generic level;

**Boldface:** Valid generic and subgeneric names;

**Roman:** Valid specific and subspecific names;

*Italic:* All invalid names such as synonyms, nomina nuda, and extra-limital taxa even though valid.

Parentheses around an author's name indicate that the specific name has been transferred from its original genus. The generic name following the author's name indicates the present placement of the species. Synonyms of species-group names are listed with the original spelling.

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**AB** Alberta  
**AK** Alaska  
**AL** Alabama  
**AR** Arkansas  
**AZ** Arizona  
**BC** British Columbia  
**CA** California  
**CO** Colorado  
**CT** Connecticut  
**DC** District of Columbia  
**DE** Delaware  
**FL** Florida  
**GA** Georgia  
**GL** Greenland  
**IA** Iowa  
**ID** Idaho  
**IL** Illinois  
**IN** Indiana  
**KS** Kansas  
**KY** Kentucky  
**LA** Louisiana  
**MA** Massachusetts

**MB** Manitoba  
**MD** Maryland  
**ME** Maine  
**MI** Michigan  
**MN** Minnesota  
**MO** Missouri  
**MS** Mississippi  
**MT** Montana  
**NB** New Brunswick  
**NC** North Carolina  
**ND** North Dakota  
**NE** Nebraska  
**NF** Newfoundland  
**NH** New Hampshire  
**NJ** New Jersey  
**NM** New Mexico  
**NS** Nova Scotia  
**NT** Northwest Territories  
**NV** Nevada  
**NY** New York  
**OH** Ohio  
**OK** Oklahoma

**ON** Ontario  
**OR** Oregon  
**PA** Pennsylvania  
**PE** Prince Edward Island  
**PM** St. Pierre-Miquelon  
**PQ** Quebec  
**RI** Rhode Island  
**SC** South Carolina  
**SD** South Dakota  
**SK** Saskatchewan  
**TN** Tennessee  
**TX** Texas  
**UT** Utah  
**VA** Virginia  
**VT** Vermont  
**WA** Washington  
**WI** Wisconsin  
**WV** West Virginia  
**WY** Wyoming  
**YT** Yukon Territory

