A CATALOG OF THE COLEOPTERA OF AMERICA NORTH OF MEXICO

FAMILY: CUPEIDIDAE
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1 Missing numbers are those assigned in the computer program to families not found in the United States and Canada.
A CATALOG OF THE COLEOPTERA OF AMERICA NORTH OF MEXICO

FAMILY: CUPEDIDAE

BY MICHAEL D. ATKINS
CALIFORNIA STATE UNIVERSITY
SAN DIEGO, CA
FOREWORD

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 type-setting machinery; and a greater degree of currentness and flexibility.

All 119 fascicles in this catalog of the beetles of America north of Mexico are produced by an original suite of computer programs, designed and written during a pilot project involving personnel of the Systematic Entomology Laboratory and the Communications and Data Services Division, Science and Education Administration.

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

T. W. Edminster, Deputy Director
Agricultural Research
Science and Education Administration
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 (back cover), the following abbreviations are used in this catalog:

**ABBREVIATIONS, GENERAL**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
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<td>County</td>
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<td>Cosmopolitan</td>
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<td>F.</td>
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<td>South America</td>
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<td>Species</td>
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<td>Subsequent monotypy</td>
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<td>USA</td>
<td>United States of America</td>
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<tr>
<td>Var.</td>
<td>Variety</td>
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<tr>
<td>W. Ind.</td>
<td>West Indies</td>
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**MUSEUMS IN THE CONTINENTAL UNITED STATES AND CANADA**

- AMNH—American Museum of Natural History, New York
- ANSP—Academy of Natural Sciences, Philadelphia, PA
- BYUC—Brigham Young University, Provo, UT
- CASC—California Academy of Sciences, San Francisco
- CISC—University of California, Berkeley
- CNCI—Canadian National Collections, Ottawa
- CSLB—Long Beach State College, CA
- 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 State College, 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
- IGECC—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

PMNH—Peabody Museum, Yale University, New Haven, CT
PSUC—Pennsylvania State Museum, University Park
PURC—Purdue University, West Lafayette, IN
RIUC—Rutgers University, New Brunswick, NJ
SEMC—Snow Museum, University of Kansas, Lawrence
SJS—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
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
BPBM—Bernice P. Bishop Museum, Honolulu
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
NHR—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), Science and Education Administration (SEA), 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, SEA: Sandra Strauss and Marianne Kingston for designing and writing the computer programs, and Margaret Seldin for developing the editing system.

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Washington, DC

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Family CUPEDIDAE

(Cupedidae, Ommadidae)

By Michael D. Atkins

The Cupedidae have been variously placed within the Coleoptera. Several early workers including LeConte and Horn (1883), Casey (1897) and Blatchley (1910) felt they were related to the Serricornia. Ganglbauer (1903) thought they belonged in the Adephaga as did Lameere (1903) who recognized their primitive structure and erected the Cupediformia. Kolbe (1908) erected the Archostemata within his division Symphytogastra of the suborder Heterophaga. Sharp and Muir (1912) placed the Cupedidae in the Byrrhoidea and considered them distinct from both the adephagans and the Australian genus Omma. Forbes (1926) placed the Cupedidae and Micromalthidae in the Archostemata which he elevated to a suborder. Boving and Craighead (1931) and Crowson (1960) maintained the Archostemata as a distinct suborder. Most recently Abdullah (1973) erected the series Cupediformia under the Archostemata. He also divided the Cupedidae into the subfamilies Cupedinace and Ommadinace; the Cupedinace consists of the tribes Cupedini and Priacmini.

The family contains six living genera containing twenty-five species, eighteen of which belong to the genus Cupes. The monotypic Priacma and three species of Cupes occur in North America.

Cupedids are somewhat flattened, elongate beetles with ornate sculpturing of the head and pronotum. The head is short and broad with protruding eyes; the antennae are eleven-segmented and more or less filiform. The legs are normal and the tarsal formula is 5-5-5. The elytra are broader than the pronotum, parallel-sided and bear rows of quadrate punctures between a series of prominent longitudinal ridges. The exposed surface of the body is clothed with brown and ash-colored scales.

Little is known about the biology and behavior of this group. Snyder (1913) discovered the larvae of Cupes concolor in a rotten log and stump of Quercus and in a decayed pole of Castanea. He was able to study the life history and describe the larval and pupal stages. Blatchley (1910) reported taking C. concolor from a ripe apple and from beneath the bark of the tree, and Say (1835) collected C. cinerea (=concolor) around old wooden farm buildings. Papp (1961) collected C. boycei (=lobiceps) from dead western sycamore, Platanus racemosa Nutt. Edwards (1951) and Atkins (1957) noted that males of Priacma serrata were attracted in large numbers to laundry soap and bleach. Both of these collections were made in areas of mixed montane forest. Ross and Pothecary (1970) obtained fertile eggs from a female P. serrata collected from western hemlock, Tsuga heterophylla (Raf.) Sarg. Many of the non-American species of cupedids have also been found in association with trees often in a state of decay; the group is believed to feed at least partially on fungus.

Subfamily CUPEDINAE

Tribe PRIACMINI

Genus PRIACMA LeConte

Priacma LeConte, 1874: 87. Type-species: Cupes serrata LeConte (monot.).


REDESCRIPTION: Atkins, 1963: 158.


serrata (LeConte), 1861: 351 (Cupes). WA: Fort Colville; BC WA OR ID MT CA. Females of P. serrata have rarely been collected, but males occur in large numbers on warm spring days and are attracted to bleach in areas of mixed montane forest.

TYPE DEPOSITORY: MCZC.
SEX OF TYPE: M.


Tribe CUPEDINI

Genus CUPES Fabricius

Cupes Fabricius, 1801: 66. Type-species: Cupes capitatus Fabricius (monot.).

capitatus Fabricius, 1801: 66. CAROLINA; WI MI ON KS MO IL IN OH KY NY PA NJ MD VA/ NH MA CT/ TN GA SC NC.


concolor Westwood, 1830: 440. IN: New Harmony; WI MI ON IA IL IN OH/ NY PA NJ MD DC WV VA/ MA/ TN GA SC NC.


cinerea Say, 1835: 167. IN.

TYPE DEPOSITORY: "Destroyed".

trilineata Melsheimer, 1845: 310. PA.

TYPE DEPOSITORY: MCZC.

oculatus Casey, 1897: 638. IN.

TYPE DEPOSITORY: USNM.

IMMATURE STAGES: Snyder, 1913:30.


REDESCRIPTION: Atkins, 1963: 150.

HOST: Quercus sp; Castanea sp.

lobiceps LeConte, 1874: 88. CA: San Diego; CA AZ.

TYPE DEPOSITORY: MCZC.

boycei Papp, 1961: 211, fig. 1. CA: Temescal Canyon.


SEX OF TYPE: M.


REDESCRIPTION: Atkins, 1963: 152.

HOST: Western sycamore, Platanus racemosus.
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1931 An illustrated synopsis of the principal larval forms of the order Coleoptera. Entomologica Americana (1930), vol. 11, 351 pp., illus.

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Crowson, R. A.

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Kolbe, H. J.

Lachaud, J. T.

Lameere, A.

LeConte, J. L.

LeConte, J. L.

LeConte, J. L.

LeConte, J. L., and G. H. Horn

Melsheimer, F. E.

Papp, C. S.

Ross, D. A., and D. D. Potheary

Say, T.

Sharp, D., and F. Muir

Snyder, T. E.

Westwood, J. O.
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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-limited 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.

boycei Papp, Cupes.................................................. 2

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cinerca Say, Cupes..................................................... 2
concolor Westwood, Cupes......................................... 2
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