

**Ground Beetles of Connecticut (Coleoptera: Carabidae, excluding Cicindelini): An Annotated Checklist**

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The Carabidae (“ground beetles”) are one of the largest families of beetles, and the largest family in the suborder Adephaga. In this field-guide-sized book, William Krinsky and Michael Oliver treat this diverse group for the state of Connecticut, providing information on the presence of 362 carabid species (9 of which are reported as new records for the state). Their work makes the carabids by far the best known beetle family for the state of Connecticut. They did not, however, include the Connecticut species of the carabid genus *Cicindela*<sup>1</sup>. Nevertheless, the group is an enormous one; and these authors tackled a large job, despite the small size of Connecticut.

The cover bears a nice photograph of nine of the more eye-catching species found in the state (two of which aren’t native). The authors should be forgiven the charge of falsely advertising the beauty of carabids with this cover because it at least demonstrates, counter to my own prejudices, that not all carabids are dull in appearance.

The introduction provides a brief overview of the family, including aspects of morphology bearing on identification, biology, habitat diversity, and the value of carabid species as indicators of environmental change. In fact, this book is full of valuable conservation information.

The authors make clear, when possible, both the current abundance of the species listed and, if known, their past abundances—thus providing information on apparent declines of species (including increases of invasive species). As evidence of ecosystem change, they point out that despite considerable effort, 51 carabid species have not been found in Connecticut since 1950. Also included is a useful review of publications on the beetle faunas of various regions of northeastern North America. A few errors from the literature are presented and corrected, including a list of 19 species previously reported for the state, but excluded from the current list because neither specimens nor published records could be found for these species. The authors state, “A new checklist is needed to document all these developments and to stimulate the study, collection, and conservation of beetles in the state.” I agree. This book will be a key tool for anyone pursuing these goals.

The introduction concludes with a section describing the format of the checklist. Making this book more valuable than many (especially older) checklists is the inclusion of documentation on the source of

<sup>1</sup>This is presumably because the cicindelid lineage has diverged substantially from its closest carabid relatives, causing many workers to treat them as a separate group. For readers interested in completeness, the *Cicindela* species for Connecticut are covered in Leonard and Bell (1999) and Sikes (1997).

each record (museum, publication, etc.), collecting data for many species, assessment of population status (if possible), phenology, and first and last year of collection for the state. In fact, the authors do an excellent job of documentation—allowing readers to determine the source of the presented information, including the location of specimens so that identifications can be checked if desired.

Three species are presented on every pair of pages, with a distribution map just opposite the species’ text. This juxtaposition of text and map adds greatly to the usability of the book and, in fact, makes it a pleasure to use compared with similar guide-style books in which maps are grouped together in a section separate from the text. For each species, the higher classification down to tribe is provided at the bottom of every page, which helps in browsing. Also easing navigation, the genus name is repeated with the map for each species, and each species is listed alphabetically by its epithet within its genus. Information on the species’ distribution in North America is provided also. All the genera are briefly described at their first appearance in the list, including natural history information, species counts, and other useful data.

True bionomic information, i.e., natural history–ecological information for each species, is sparse. Most of the text considered “bionomic” information is composed of anecdotal collecting notes indicating microhabitats in which specimens were found (e.g., “under beach wrack,” “along sand bar,” “sifting leaves,” “under particle board,” and my favorite, “bit collector’s wrist, farm lane, hot evening,” etc.). Some might consider this information trivial, but others, especially those who are just starting a study involving carabids, may find it quite helpful (although I don’t recommend holding one’s wrist out while walking on farm lanes during hot evenings as a reliable method to collect *Clivina impressifrons*).

A very useful feature of this book, absent from most checklists, is the presence of color plates, with at least one color illustration for each of the 71 genera. A minor criticism is that there are no scale bars to indicate size, nor are there page numbers listed with the species names for cross-referencing, but this detracts little from their obvious usefulness. The images are of pinned specimens rather than live adults, but they have wisely been subjected to Photoshop to have a uniform background. Most are adequate and quite useful illustrations of the dorsal habitus, in focus and properly exposed; although a few, particularly the smaller specimens, and especially the image of *Polyderis laevis*, are less so. However, the importance of these illustrations cannot be understated—I am sure many users of this guide, especially those in northeastern North America, will find these to be some of the only photographs available anywhere for carabids of their region.

The book remains a checklist, however, and readers should not expect to be able to use this book alone for carabid identification work (although it can certainly help in that endeavor, especially to the level of genus).

Workers in regions close to (or, of course, in) Connecticut will find this book useful in any attempt to study their own similar carabid faunas. In addition, the illustrations and genus-level information may be useful to anybody working with carabids, regardless of their

region, because many of the included genera are widespread or even cosmopolitan. The format of the book is a vast improvement over the checklists of yesteryear and can act as a template for workers in other regions to improve their own efforts. To conclude, I recommend this book highly and hope that more large families of beetles will receive similar attention to bridge the gap between the primary taxonomic literature and the non-taxonomist users who wish to appreciate their local biodiversity.

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An annotated checklist | Find, read and cite all the research you need on ResearchGate. Paper provides checklist of ground beetle species noted in the "Rawka" nature reserve, Bolimów Landscape Park, central Poland. View full-text. Conference Paper. Full-text available. The catalogue of the ground beetles (Coleoptera: Carabidae) of the Republic of Macedonia is the result of our permanent investigation during 15 years. It is based on the critical review of the data in 255 scientific publications and the revision of the collections deposited in the museums in Macedonia (Skopje and Struga), other European countries (Berlin, Budapest, Vienna, Sofia) and the first Ground beetles of Connecticut (Coleoptera: Carabidae, excluding Cicindelini). WL Krinsky, MK Oliver. Connecticut Department of Environmental Protection, 2001. 6. 2001. SCIENTIFIC NOTE: Additional Records of Carabids from Connecticut (Coleoptera: Carabidae). WL Krinsky, MK Oliver. The Coleopterists Bulletin 58 (3), 396-397, 2004. Ground beetles of Connecticut (Coleoptera: Carabidae, excluding Cicindelini). An annotated checklist. Connecticut State Geological and Natural History Survey, Bulletin 117, iv+308 pp. Blurb. Oliver, M.K. 1996. Death-feigning observed in *Hippopsis lemniscata* (Fabricius) (Coleoptera: Cerambycidae). Coleopterists Bulletin, 50: 160-161. PDF. Carabids previously unreported from Connecticut (Coleoptera: Carabidae). Coleopterists Bulletin 42(4): 387-396. PDF Messer, Peter W. 2009. "An Annotated Checklist of Wisconsin Ground Beetles (Coleoptera: Carabidae)," The Great Lakes Entomologist, vol 42 (1) Available at: <https://scholar.valpo.edu/tgle/vol42/iss1/3>. This Peer-Review Article is brought to you for free and open access by the Department of Biology at ValpoScholar. It has been accepted for inclusion in The Great Lakes Entomologist by an authorized administrator of ValpoScholar. Ground beetles are often chosen for study because they are abundant in most terrestrial habitats, diverse, taxonomically well known, serve as sensitive bioindicators of habitat change, easy to capture, and morphologically pleasing to the collector. An Annotated Checklist of Wisconsin Ground Beetles (Coleoptera: Carabidae). March 2009. Great Lakes Entomologist. Peter W. Messer. The catalogue of the ground beetles (Coleoptera: Carabidae) of the Republic of Macedonia is the result of our permanent investigation during 15 years. It is based on the critical review of the data in 255 scientific publications and the revision of the collections deposited in the museums in Macedonia (Skopje and Struga), other European countries (Berlin, Budapest, Vienna, Sofia) and the first

Cicindelini, Bembidiini, and Dyschiriini represent three taxonomical groups with high numbers of stenotopic floodplain species. Their habitat-differentiating distribution within the study area is illustrated in Tab. 2. Thus, only individual species such as *Cicindela campestris olivieria* or *Asaphidion rossii* occur almost evenly across different habitat types, while most carabids of these groups show clear habitat preferences. The Vjosa-floodplains in Albania as natural habitat for ground beetles: a hotspot of rare and stenotopic species (Coleoptera: Carabidae). 301. Tab. Excluding single records in any sampling year yielded 9 prairie species, 5 forest species, and 10 species found in both aspen forest and tallgrass prairie. The five most abundant species of ground beetles were *Agonum placidum* (Say), *Pterostichus caudalis* (Say), *P. femoralis* (Kirby), *P. melanarius* (Illiger), and *Synuchus impunctatus* (Say). Catalogue of the Geadephaga (Coleoptera: Trachypachidae, Rhysodidae, Carabidae including Cicindelini) of America north of Mexico. *Memoirs of the Entomological Society of Canada*, 167: 1–397. Google Scholar. Habitat associations and seasonal activity of ground-beetles (Coleoptera, Carabidae) in central Alberta. *The Canadian Entomologist*, 124: 521–540. CrossRef Google Scholar. Niwa, C.G., and Peck, R.W. 2002. Introduction When preparing the catalog of ground beetles of the Far East of Russia, many inaccuracies were found in the second edition of the first volume of the Catalog of Palaearctic Coleoptera (Lobl, Lobl, 2017). Since this publication has widely been used as a source of reference, also serving as the basis for compiling many regional checklists, it seems advisable to pinpoint and publish the errors we have spotted in order to facilitate the future introduction of corrections. Results In total, 214 notes are included in the present publication, of which 189 relate to the systematic part. They contain a total of 10 corrections to the distribution of taxa: 3 taxa are included as new to the fauna of the Russian Far East, 4 are excluded from the list, and... Ground beetles of Connecticut (Coleoptera: Carabidae, excluding Cicindelini). WL Krinsky, MK Oliver. Connecticut Department of Environmental Protection, 2001. 6. 2001. SCIENTIFIC NOTE: Additional Records of Carabids from Connecticut (Coleoptera: Carabidae). WL Krinsky, MK Oliver. *The Coleopterists Bulletin* 58 (3), 396-397, 2004. An Annotated Checklist of Wisconsin Ground Beetles (Coleoptera: Carabidae). March 2009. Great Lakes Entomologist. Peter W. Messer. The catalogue of the ground beetles (Coleoptera: Carabidae) of the Republic of Macedonia is the result of our permanent investigation during 15 years. It is based on the critical review of the data in 255 scientific publications and the revision of the collections deposited in the museums in Macedonia (Skopje and Struga), other European countries (Berlin, Budapest, Vienna, Sofia) and the first ...