

SECOND AND THIRD
SUPPLEMENTS
1925 to 1932 (inclusive)

to

CATALOGUE
of the
COLEOPTERA
of
AMERICA, NORTH OF MEXICO

By

CHARLES W. LENG, B.Sc.

Director

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AMERICAN MUSEUM OF NATURAL HISTORY

and

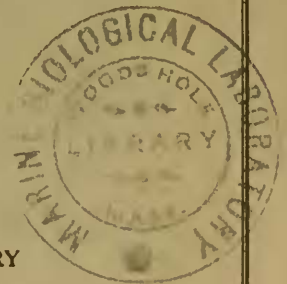
ANDREW J. MUTCHLER

Associate Curator

in charge of

Coleoptera

AMERICAN MUSEUM OF NATURAL HISTORY



Mount Vernon, N. Y.

JOHN D. SHERMAN, JR.

December 18

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AFFECTIONATELY
DEDICATED TO
SAMUEL HENSHAW

IN CONTINUED APPRECIATION OF
THE HENSHAW LIST OF COLEOPTERA
PUBLISHED ALMOST HALF A CENTURY AGO.
WE REJOICE IN HIS UNABATED
INTEREST IN BIBLIOGRAPHICAL MATTERS.

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SIGNS AND ABBREVIATIONS

|| indicates name preoccupied.

‡ indicates name cited in error.

† indicates introduced species.

¹ A figure one following name means it was based upon a single specimen.

ab.	aberration
auct.	authors
fide	according to
ined.	unpublished
i. litt.	in a letter
n. n.	nomen novum, name substituted for one preoccupied.
nec	not
s. str.	sensu strictu, in a restricted sense.
subg.	subgenus
subsp.	subspecies
syn.	synonym
var.	variety

For other abbreviations (of localities, etc.) see original catalogue.



INTRODUCTION

In the second supplement to the Catalogue of Coleoptera of America, north of Mexico, we record the species, subspecies, and "aberrations," described during the period from January 1, 1925, to December 31, 1930. As in the catalogue and first supplement, the new species are serially numbered, with subspecies and varieties indicated by the addition of a letter to the serial number of the species with which they are allied. An unusual number of names have been proposed for so-called "aberrations;" these have not been numbered, but are not necessarily synonyms. Many are recognizable variations which, however, have been regarded by some author or reviewer as of less than subspecific rank.

By thus numbering the names which have been proposed we do not intend to present our own opinion as to their validity, but to reflect the opinions of the authors quoted. In a few instances, where the opinions conflict, we have, as far as possible, presented both views.

In preparing this supplement we have used as a basis the data assembled in *Entomological News*, and added thereto those found in the *Zoological Record* and, in a few instances, others cited in *Biological Abstracts*. The result was then compared with the original papers, as published in various periodicals, here and abroad, and in many instances, preliminary copy was sent to the authors for correction. Finally comparison was made with the *Junk Coleopterorum Catalogus*, which disclosed some differences which have been noted, but not always followed.

The original intention was to print the second supplement in 1931. Financial difficulties having caused a postponement, we have taken advantage thereof to carry the bibliography down to December, 1932, and to indicate the new species, etc., proposed in 1931 and 1932, as a third supplement.

In the bibliography we have included all contributions bearing directly or indirectly upon the classification of Coleoptera, as well as a few papers of literary interest. The period covered by this supplement has produced several papers of importance in clarifying the classification. Bradley's *Manual of the Genera* brings together in one volume, for the first time since 1883, definitions of nearly all the genera. Jeannel's *Monograph of Trechinae* is an example of able taxonomic work covering the species of the old and new world.

Tillyard's *Insects of Australia and New Zealand* reviews the classification with special reference to the phylogeny, and recent discoveries in fossil insects. Forbes' studies in venation and wing folding patterns afford an independent view of relationships. Finally and most important we have included, though not published until 1931, "An Illustrated Synopsis of the principal Larval Forms of the order Coleoptera" by Böving and Craighead. By the publication in this paper of the results of the studies of many years, it becomes possible to compare the existing classification of adult beetles with one based entirely upon their immature stages.

Happily for the permanence of our classification there is now a more substantial agreement between the two than when MacLeay in "*Horæ Entomologicæ*" (1819-1821) attempted to make such a comparison. Dr. Böving's statement of this fact is "As a rule the classification of the larvæ agrees with the commonly recognized classification of the imagines, and particularly well with the one followed in Leng's catalogue." The division of the order into suborders Adepnaga and Polyphaga, and the subdivision of the suborders into superfamilies, grouped into series, is found in both systems. The differences consist in the composition of the suborders, and of their subdivisions, in which the knowledge of larval relationships affords valuable evidence, heretofore lacking. A brief statement of some of these differences follows.

ARCHOSTEMATA

The families Cupesidæ and Micromalthidæ, the anomalous characters of which have heretofore been recognized, are ranked as a third suborder by Böving. He says "I cannot see how we can escape giving to this group the rank of a suborder, the Archostemata of Kolbe, as it can be joined neither with the Adepnaga nor the Polyphaga." Forbes, from studies of wing folding pattern, grouped these families under the same name. Tillyard, though he placed Cupesidæ in Adepnaga, described it as "an annectent group between the Adepnaga and Polyphaga." There is thus a substantial agreement on the division into three suborders; and in future catalogues the first should be on phylogenetic grounds, the Archostemata.

ADEPHAGA

The family Rhysodidæ is transferred by Dr. Böving from Polyphaga to Adepnaga. "The larva of *Clinidium*," he says, "... can without reservation be placed in the suborder Adepnaga." The superfamilies Caraboidea and Gyrinoidea are sustained by characters of their larvæ, which also afford important help in arranging in natural sequence the subfamilies and tribes of Carabidæ and Dytiscidæ. On the basis of larval characters Cicindelidæ, Carabidæ, Omophronidæ, Haliplidæ, Hygrobiidæ, Noteridæ, Dytiscidæ, and Amphizoidæ, are entitled to rank as

families, with the rank of the Pseudomorphidæ unknown. The subfamilies indicated in the Carabidæ are Lebiinæ; Dromiinae, Odacanthinæ; Driptinæ, Nebriinæ; Loricerinæ; Carabinæ, Cychrinæ, Chlæniinæ; Licininæ, Bembidiinæ, Sphodrinæ, Broscinæ, Dysechiriinæ, Scaritinæ, Elaphrinæ; Patrobinæ, Pterostichinæ, Amarinæ, Harpalinæ, Glyptinæ. The semicolons in this enumeration separate the related groups of subfamilies. The Trechini appear to be separable from Bembidiini, on their larval characters, only by differences of tribal rank.

As to the sequence of the suborders Dr. Böving considers that it would "be logical to place the Adephaga third, as the more modern of the three," "but for practical purposes it appears more advisable to rank the suborders in the commonly accepted sequence." The well developed tarsus of adephagous larvæ, carrying one or two distinct and movable claws, may be a primitive character, as regarded by us in 1920; and the great similarity in this respect between the larvæ of the Caraboidea and those of certain neuropterous larvæ is interesting and possibly significant. However there are several polyphagous larvæ, specifically mentioned by Dr. Böving, in which the tarsungulus is "divided by a faint suture into a proximal and distal portion which possibly correspond respectively to tarsus and claw." In Dr. Böving's definition of the suborders by larval characters, the Adephaga are placed second, and the resemblance of their legs and claws to those of the Archostemata seems to us to indicate this as their natural sequence.

POLYPHAGA

The greatest difficulties in the classification have been in this suborder, and in the differences between the opinions expressed by Böving, Forbes, and Tillyard, they are still apparent. The removal of Cupesidæ and Micromalthidæ to Archostemata, and of Rhysodidæ to Adephaga, simplifies the classification of the Polyphaga; and fortunately the isolation of the Scarabæoidea, of the so-called Phytophaga, and of the Hydrophiloidea and Staphylinoidea is not questioned; though, as to the latter two, the composition is somewhat altered. Believing that the larval characters afford the safest guidance, not however to the exclusion of other considerations, we review the superfamilies in the sequence adopted by Dr. Böving.

Staphylinoidea. The component families, based on larval characters, would be Limnebiidæ, Hydroscaphidæ, Leptinidæ, Ptiliidæ, Anisotomidæ; Platypsyllidæ, Scaphidiidæ; Silphidæ, Staphylinidæ, Pselaphidæ, Seydmænidæ. The families also included, though their larvæ are imperfectly known or entirely unknown, are Clambidæ, Brathinidæ, Sphæritidæ, Sphæriidæ, and Micropeplidæ. The differences between this and existing classification is the removal from Hydrophilidæ of the aberrant genera *Limnebius*, *Ochthebius*, and *Hydræna*; and the suppression of Silphoidea as a superfamily.

Forbes reached a similar result from his studies of the wings. "Ochthebius and Hydræna," he says, "do not belong here (in Hydrophilidæ), but with the aberrant "Silphidæ;" and the latter he classifies with his Staphyliniformia.

It should be noted that within the families Anisotomidæ and Staphylinidæ, the larval characters indicate many subfamilies, with Oxyporinæ, Habrocerinæ, and others, quite definitely separated; and that the Histeridæ, on larval characters, are associated with Hydrophiloidea, a view in which apparently Forbes' conclusions are not entirely in accord.

Hydrophiloidea. In this superfamily Dr. Böving groups Histeridæ and Helophoridæ, "on account of an unquestionable conformity in the development of the fundamental systematic characters" of their larvæ; Spercheidæ; Hydrochidæ and Hydrophilidæ, the latter divided into subfamilies Berosinæ, Hydrophilinæ, Hydrobiinæ, and Sphæridiinæ. The treatment of Histeridæ, regarded by Forbes as a superfamily, and by Tillyard as "very distinct and isolated," is at first sight rather startling; but it is to be noted that Forbes also found that the venational characters seemed "to link with the Hydrophilidæ on one side and more closely to the Lamellicornia on the other." The views of Tillyard regarding Hydrophiloidea as "perhaps the oldest of existing Coleopterous groups" traceable "back geologically to the upper Permian" are interesting. He further says "the fossil evidence, so far as at present available, would tend to indicate that. . . the development of longitudinal striæ and intervals is an entirely new formation. If this be so, the almost smooth elytra of many Hydrophilidæ probably represent the most primitive type." The same argument would apply to the comparatively smooth elytra of the Histeridæ, and thereby support Dr. Böving's classification of the larvæ. Moreover, while Hololepta and Hydrophilus in the adult stage seem far apart, some of the small Saprini are not so dissimilar to the Sphæridiinæ.

Cucujoidea. Dr. Böving finds three types of larvæ in the Polyphaga. The primitive type is found in its most characteristic and original form in such families as the Limnebiidæ, Leptinidæ, and Anisotomidæ. From it are derived the more or less specialized larvæ of the Staphylinoidæ and Hydrophiloidea, which have therefore preceded other Polyphaga in his conspectus.

A distinct polyphagous larval type is found in the series Cucujoidea. It shows such close affinities with the staphylinoid-leptinid type as to be placed next thereto in the conspectus. The families included are (semi-colons indicating their grouping) *Eucinetidæ*, *Derodontidæ*, *Monotomidæ*, *Rhizophagidæ*; *Languriidæ*, *Cryptophagidæ*, *Silvanidæ*, *Cucujidæ*, *Prostomidæ*; *Catogenidæ*, *Læmophloeidæ*, *Phalacridæ*, *Smicripidæ*, *Corylophidæ*; *Nitidulidæ*, *Cybocephalidæ*; *Sphindidæ*; *Lathridiidæ*, *Murmidiidæ*, *Endomy-*

chidæ, Coccinellidæ, Erotylidæ, *Dacnidæ*, Melandryidæ, *Scraptiidæ*, Anthicidæ, Byturidæ; *Bothrideridæ*, Colydiidæ, Mycetophagidæ; Oedemeridæ, Cephaloidæ; *Zopheridæ*, *Synchroidæ*, Pedilidæ; Eurystethidæ, *Salpingidæ*, Pyrochroidæ, *Boridæ*, Pythidæ, Othniidæ; Alleculidæ, Tenebrionidæ (to be divided into many sub-families), *Nilionidæ*, Lagriidæ. In addition, though the larvæ are imperfectly known, the Monommatidæ and Lymexylidæ are included, and with doubt possibly the Mordellidæ.

These families have been heretofore, with some exceptions named below, the components of the superfamilies Cucujoidea, Tenebrionoidea, and Mordelloidea, which thus become united as one superfamily, but divided into a greater number of families. The families added are indicated by italics. On the other hand, Mycetæidæ, Euglenidæ, and Monoedidæ are reduced on larval characters to subfamily or tribal rank. The exceptions above referred to are Eucinetidæ, formerly classed as a subfamily of Dascillidæ, but agreeing in its larval form, apart from the lack of jointed urogomphi, with the leptinid association of the Staphylinoidæ; Corylophidæ, usually placed as an aberrant family in the Silphid association; Sphindidæ, the larvæ of which represent "unquestionably a simple, primitive cucujoid type," and have heretofore been included in Bostrichoidea.

In this treatment of the Cucujoidea it is to be hoped that the clues to actual relationship afforded by the larval characters, so thoroughly studied by Dr. Böving, may be reconcilable with adult characters. But it cannot be denied that Forbes' classification (Journ. N. Y. Ent. Soc., XXXIV, 113-115), based on wing venation and folding pattern, is not in agreement. Of the four series, Haplogastra, Bostryciformia, Diversicornia, and Dryopiformia, into which he divides the Polyphaga, only the first can, by transferring the Scarabæoidea, be compared with Dr. Böving's leptinidstaphylinoid association. We admit that our tendency is to regard the larval characters, based on mouth parts and organs of locomotion, as the surer guide; but we cannot conceal the differences that are apparent in Forbes' views.

Byrrhoidea. The larvae of this series are found to represent another distinct polyphagous type, not linked by any larval type known up to this time with the primitive Staphylinoidæ. This type of larva is in fact so distinct that Dr. Böving appears to have considered founding a suborder thereon. However some of the derived families of the byrrhoid type and some of the cucujoid type approach one another. Wherefore Dr. Böving writes "rather isolated as the series Byrrhoidea appears in the polyphagous suborder, it does not seem necessary to rank it and the families and series derived from it as a separate suborder." These families and series include, in Dr. Böving's conspectus, the remainder of the Coleoptera. The

Byrrhoidea includes only the family Byrrhidæ. Two series, Dascilloidea and Cleroidea, are descended directly from the Byrrhoidea; Dryopoidea can be derived through the Ptilodactylidæ; Elateroidea, through the Eurypogonidæ; Cantharoidea and Scarabæoidea from other dascilloid or dryopoid families.

With the Cleroidea may be associated Mordelloidea, Bostrichoida, and the so-called phytophagous assemblage. The series Meloidea may also belong here but Dr. Böving adds that there are some reasons for considering the possibility that it might be related to the Cantharoidea.

The composition of the series thus hypothetically derived from Byrrhoidea differs in some cases from that heretofore assumed and will be discussed below.

Dascilloidea. The Eucinetidæ are removed to Cucujoidea, other families to Dryopoidea, as stated below. The Nosodendridæ and Heteroceridæ are added, making four families, viz: Dascillidæ, Heteroceridæ, Helodidæ, Nosodendridæ.

Dryopoidea. This series includes new families Ptilodactylidæ and Eurypogonidæ, taken from Dascilloidea; Psephenidæ, divided into subfamilies Psepheninæ and Eubrianacinæ of which the latter is taken from Dascilloidea; Chelonariidæ; Dryopidæ, divided into subfamilies Larinæ, Pelonomina and Helminæ.

In the rearrangement of the families of Byrrhoidea, Dascilloidea, and Dryopoidea, discussed in detail by Dr. Böving in his paper of 1929 in the Bulletin of the Brooklyn Entomological Society, the value of larval characters in determining relationships is strikingly exhibited.

Cantharoidea. The Melyridæ, Cleridæ, and Corynetidæ are removed to a new series Cleroidea. The family Brachypsectridæ, following Blair, is considered valid on larval characters, but is included here, rather than in Dascillidæ. The Cantharidæ are divided into subfamilies Malthinæ, Chauliognathinæ, Malthodinæ, and Cantharinæ.

Elateroidea. The differences here from existing classification are slighter than in some preceding series. Plastoceridæ are included in Cebrioidæ, and Drapetes is removed from Throscidæ to the subfamily Oestodinæ of Elateridæ. Sandalidæ is treated as a family, quite distinct on larval characters from Rhipiceridæ.

Scarabæoidea. This superfamily is unchanged, but the larval characters accentuate its subdivisions into families and subfamilies.

Cleroidea. The families included in this new superfamily are Dermestidæ, Melyridæ, Ciidæ, Ostomatidæ, Cleridæ, Catogenidæ (?), and Bothrideridæ (?). The relationship of the last two is regarded as problematical. As to some of the other families, the larval characters suggest the need of many subfamilies.

Meloidea. This new superfamily includes Meloidæ, divided into three subfamilies (after erecting a new family Tetraonycidæ), and Rhipiphoridæ. "Probably the Strepsiptera are to be classified in the Coleoptera and close to the Rhipiphoridæ," is added in a footnote.

Mordelloidea. This series, which was proposed by us with great hesitation, is reduced to the family Mordellidæ, and to its main genera Tomoxia, Mordella, and Mordellistena. Even these in the larval stage are related to several of the melandryid genera.

Cerambycoidea. This series is restricted by its larval characters to the family Cerambycidæ, divided into subfamilies Prioninæ, Cerambycinæ, Asemínæ, Lepturínæ, Lamiínæ and Disteniínæ. The Chrysomelidæ are regarded as a superfamily.

Bostrichoidea. This series, comprising Ptinidæ, Anobiidæ, Bostrichidæ, Psoidæ, and Lyctidæ, differs from the existing classification only by the removal of the families Ciidæ and Sphindidæ.

Chrysomeloidea. Larval studies indicate the necessity of separating the Bruchidæ and Chrysomelidæ, as a superfamily, and of dividing the latter into many families. Some have heretofore been recognized as subfamilies, others are the result of recent studies, and many are again subdivided; it is even stated that "when better studied, the classification of the entire family Galerucidæ will unquestionably be changed." The families indicated by larval studies are Bruchidæ, Sagridæ; Orsodaenidæ, Donaciidæ, Camptosomatidæ, Eumolpidæ, Crioceridæ, Chrysomelidæ, Galerucidæ (divided into Galerucinæ, Diabroticinæ, and Halticinæ), Hispidæ, and Cassididæ.

Platystomoidea. In the division of the Rhynchophora by larval characters the family Platystomidæ becomes a superfamily divided into two subfamilies Brachytarsinæ and Choraginæ.

Curculionoidea. The remainder of the Rhynchophora are divided into Brentidæ, Proterhinidæ, Attelabidæ, Apionidæ, Curculionidæ (with Lissorhoptrínæ as a subfamily), Calendridæ, Platypodidæ, and Scolytidæ. In regard to the latter it is stated that "the larvæ of the Curculionidæ and Scolytidæ cannot be separated." Belidæ larvæ are unknown.

Finally the conspectus by Dr. Böving ends with the superfamily *Lymexyloidea* for Lymexylidæ and Telegeusidæ, the larva of the latter being unknown. As far as known the larva of this superfamily approaches in important characters those of Oedemeridæ and Calopidæ, "but also greatly resembles the larval form of the ancient suborder Archostemata." "The systematic position of this series is uncertain."

As a final summary of this important contribution to the classification of the Coleoptera we note with satisfaction that, in its main

features, the classification reached after nearly two centuries of study of the adults is confirmed. The phylogeny of the order, relieved of the supposition that all its families must be traceable to a common ancestral type, becomes plainer as the morphology of the larvæ displays the wide gaps between the three suborders Archostemata, Adephaga, and Polyphaga. The difficulty of subdividing the Polyphaga on characters drawn from the number of tarsal joints, or the form of the antennæ, becomes lessened by the recognition of three types of larvæ, leptinid-staphylinoid, cucujoid, and byrrhoid, by means of which the true relationship of heretofore baffling forms may be indicated.

We congratulate Dr. Böving and his co-workers, F. C. Craighead, R. A. St. George, and others, in this country and abroad, on the successful outcome of their patient research, aided by the inspiring influence and learning of the late Dr. E. A. Schwarz. Even more, perhaps, are the students of the classification of the Coleoptera to be congratulated on the guidance in their studies afforded by Dr. Böving's work. The task remains of reconciling the differences between the classification of the adults and that of the larvæ. In this supplement we are therefore content to indicate, through this introduction, and by footnotes in the text, the alterations in the classification which are probably needed.

It is a matter of regret that the work of P. de Peyerimhoff on the Larvæ of Coleoptera (*Annales Soc. Ent. France*, 1933) appeared too late for its valuable comments on classification to be noticed in these supplements.

We thank the many students of North American Coleoptera who have so willingly assisted us in our work, and it is a pleasure to acknowledge for the printers, for the publisher, and for ourselves, the assistance of Miss Ethel Olsen, by whom, practically without error, the manuscript was typewritten.

Charles W. Leng
Andrew J. Mutchler

September 1, 1933.

MYCETÆIDÆ

- Stethorhanis* Blais. 30-376
21122. *vandykei* Blais. 30-381 Cal.

ENDOMYCHIDÆ

Stenotarsus

21123. *blatchleyi* Walton 28-217
Fla.

PHALACRIDÆ

Hetschko, Col. Cat. pars 108 (1930).

Phalacrus

21124. *vicinus* Guill. 94-292 Mich.Mo.
21124a. *subsulcatus* Guill. 94-292
Mich.Mo.
21125. *propinquus* Guill. 94-293
Kan.
21126. *americanus* Guill. 94-294
Mich.

Olibrus

10778. *caseyi* n.n. Hetschko 28-142
egenus||Csy. nec Guill.
piceus Boh. 58-38 (Eugen. Reise)
Cal.(?)

Tinodemus Guill. 94-300

21127. *grouvellei* Guill. 94-302 Mich.

Stilbus

21128. *atomarius* L. 67-574,
fide Leonard N. Y. State List
N.Y.

Gorginus Guill. 94-283

- (*Erythrolitus* Csy.)
10867. *rubens* (Lec.)

COCCINELLIDÆ*

Hyperaspis

21129. *pluto* Fall 25-311 Cal.
21130. *jovialis* Fall 25-311 Cal.

Scymnus

21131. *pellio* Blatch. 27-142 Fla.
11028. *melsheimeri* n.n. Weise 29-33
for *collaris* Melsh. nec Herbst
11047. *sanctus* n.n. Weise 29-33
for *decipiens* Csy. nec Weise
11084. *nevadensis* n.n. Weise 29-33
for *innocuus* Csy. nec Boh.
11085. *indianensis* n.n. Weise 29-33
for *rusticus* Csy. nec Weise
11092. *georgei* n.n. Weise 29-33
for *bisignatus* Horn nec Boh.

Scymnus

- 11115a. *caseyanus* n.n.
for *brunnescens* Csy. nec Mots.
caseyi||Weise 29-33 nec Berthes
11120. *lunaris* n.n. Weise 29-33
for *stigma* Csy. nec Weise

Delphastus

19760. removed to *Scymnillodes*,
Chapin 30-493.

Psyllobora

- 11150 b, is a valid species.
fide Blatch. 30-38

Adalia

- 11193a. *schuetti* Park 29-4 Iowa

ALLECULIDÆ

Mycetochara

11331. *rufipes* Lec. belongs here,
not under 11267.

* The European *Bulæa lichatschovi* has been found at Paterson, N. J., fide Schott 26-17.

LATHRIDIIDÆ

Lathridius

2185S. laevior¹ Brown 32-208 Que.

ENDOMYCHIDÆ

Epipocus

21859. subcostatus Gorh. Ariz.
fide Benedict 31-156

COCCINELLIDÆ

Korschefsky 31, 32; Dobzhansky 31.

In the arrangement of genera and tribes the following changes are made in Col. Cat. 118 and 120:

Oxynychus Lec. is recognized as genus for 1093S.

Pentilia and Pentiliini are used for Microweisea and Microweiseini.

Exoplectra is placed in tribe Exoplectrini.

Rhizobiini are consolidated with Coccidulini.

Psyllobora is placed in Coccinellini.

Cycloneda and Olla are in Synonychini.

Cleis is changed to Mulsantina Ws. 06-34.

Arawana is suppressed in Chilocorus.

Brumus is recognized as valid genus.

The taxonomic changes proposed by Korschefsky are numerous in nearly every genus. They are as follows:

Hyperaspis

Unnumbered names under 10877, 10922, 10923, and 10930, are called aberrations.

The unrecognized names festiva, floridanus, and annularis, are treated as good species.

The species mendica Muls. 53-232 is included.

10874a is treated as an aberration. The species subsignata Cr. 74-226 is valid.

19739a may be a good species (pp. 192, 198, 586).

1093S is transferred to Oxynychus.

Brachyacantha

The variety americana Leng 11-302, is said to occur in Ky., Kan., Tex. 10974a is treated as syn. of 10974.

10974b. fulvopustulata Melsh. 47-178.

10972d. troglodytes Muls. 50-534, ab. of 10972.

stellata Csy. syn. of 10972d.

uteella Csy. ab. of stellata.

Microweisea

10991. caseyi n.n. Korsch. 31-223 for minuta || Csy.

Scymnus

The first four of the unrecognized species in our catalogue are treated as valid.

guttiger Muls. is called ab. of 11093.

marginellus " " " " "

11011a is syn. of 11011.

Scymnus

21860. lowei Muls. 50-980, described from Mex. La. Tex. Cal.

19759. minor n.n.

11014. read postpinctus.

11067. calaveras Csy. 99-150 treated as valid.

11033. reverse synonymy.

11115a. (including caseyi Ws. n.n.) treated as syn. of 11115.

femoralis Say is treated as ab. of 11115.

Novius

11130 is transferred to Rodolia.

Psyllobora

11150. borealis, separata, deficiens, called ab.

Four Boh. Eugen. Resa. names are revived.

Anisosticta

11154. is treated as strigata Thunb. 95-113 with bitriangularis Say and multiguttata Rand. as ab.

21861. novemdecim-punctata L. 58-306 as good sp. with irregularis Ws. as ab.

Ceratomegilla

11158. is treated as maculata DeG. with fuscilabris Muls. (= strenua Csy.), and medialis Csy. 99-76, as aberrations.

Adonia

11160. is treated as palæarctic.

Hippodamia

Korschefsky makes aberrations of all the unnumbered names, and adds *praticola* Muls. 50-125 as an ab. of 11173, and *racemosa* Muls. as an ab. of 11165 together with 19761.

11162. *tibialis* Say is treated as a good species.

Coccinella

The following is the arrangement of Dobzshansky 31:

11181. *trifasciata* L.
perplexa Muls.
11181a. *eugenii* Muls.
11181b. *juliana* Muls. (= *barda* Lec.)
11181c. *subversa* Lec.
11183. *hieroglyphica* subsp. *tricuspis* Kby.
11183a. *humboldtiensis* Nun.
11184. *novemnotata* Hbst.
var. *conjuncta* Fitch
var. *confluenta* Fitch
11184a. *degener* Csy.
11184b. *franciscana* Muls.
11184d. *oregona* Csy.
11185. *transversoguttata* Fald.
var. *quinquenotata* Kby.
var. *transversalis* Muls.
11185b. *nugatoria* Muls.
21862. *prolongata* Cr.
21862a. *sequoie* Dobz. 31-10. Cal.
21862b. *bridwellii* Nun.
21863. *californica* Mann.
var. *melanocollis* Joh.
var. *nevadica* Csy.
21864. *johnsoni* Csy.
11187. *nivicola* subsp. *monticola*.
11187d. *alutacea* Csy.
21865. *difficilis* Cr. (= *vandykei* Nun.)
21866. *suturalis* Csy.
11188. *undecimpunctata* L.
Korschefsky's arrangement makes aberrations of the unnumbered names in our catalogue with little discrimination, and adds *zetterstedti* Mader (*Evidenz pal. Cocc.* 1926 (1930) p. 151, pl. 28, fig. 35, as an ab. of 11185, occurring in Lapland and Canada.

Neoharmonia

This is treated as a subgenus of *Coccinella*.

11178 (= 11179).

Cycloneda

11189 (= 11189a).

11191. spelling changed to *ater*

Olla

11192. *binotata* Say 26-302 is cited as a synonym (erroneously ? compare 10879).

Adalia

Our unnumbered names are treated generally as aberrations.

11193a. *schuetti* Park 29-429 is a syn. of *sesquipunctata* Haw. 12-272 fide Mader 31-476

Cleis

Mulsant used this name twice, on page 135 and again on page 208, but corrected the error on page 1023 and in his 'Table Méthodique.' The substitution of *Mulsantina* Ws. 06-34 therefore seems unnecessary.

11196. *impictipennis* Ws. 95-125 is added as an ab.

Anatis

11202. The following, each described from a single specimen, are added as aberrations:

caseyi Westcott, Ent. News, xxiii, 1912, 422.
signaticollis Muls. 50-135.

Chilocorus

11217. *stigma* Say 35-202 is preferred to *bivulnerus* Muls. Say's description is doubtfully valid. 11220a and 11220b are treated as synonyms.

Arawana

This genus is erroneously suppressed.

21867. *scapularis* Gorh. 94-178

Ariz.

Brunus

This genus is correctly recognized.

Epilachna

juncta Joh. is treated as aberration.

ALLECULIDÆ

Knausia Fall 31-15

21868. *crassicornis* Fall 31-16 N.Mex.

Hymenorus

21869. *distinctus* Fall 31-179 Miss. Ala.
Fla.

21870. *molestus*¹ Fall 31-182 Pa.

21871. *arkansanus* Fall 31-183 Ark.

21872. *dubius* Fall 31-184 Miss. Ala.

21873. *caurinus*¹ Fall 31-185 B.C.

21874. *ulomoides*¹ Fall 31-187 So. Cal.

Hymenorus

21875. *sinuatus*¹ Fall 31-187 B.C.

21875a. *ebeninus*¹ Fall 31-188 Cal.

21876. *macilentus*¹ Fall 31-188 N.Mex.

21877. *atratus*¹ Fall 31-189 Ariz.

21878. *illus* Fall 31-193 Ala.

21879. *bitumescens*¹ Fall 31-194

Ariz.

21880. *protibialis* Fall 31-196 So. Cal.

21881. *cassus* Fall 31-197 L. Cal.

21882. *irritus* Fall 31-199 Cal. Ariz.

21883. *conformis* Fall 31-199 Tex.

21884. *vigilax*¹ Fall 31-200 Ariz.