DETERMINATION OF GENERIC TYPES,

AND A

LIST OF ROUNDWORM GENERA, WITH THEIR ORIGINAL AND TYPE SPECIES.

BY

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[Concluded on page 3 of cover.]
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U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF ANIMAL INDUSTRY,
Washington, D. C., July 20, 1905.

Sir: I have the honor to transmit herewith for publication a technical manuscript entitled "The Determination of Generic Types, and a List of Roundworm Genera, with their Original and Type Species", prepared by Doctors Stiles and Hassall.

Medical, veterinary, and zoological literature has been inconvenience to no slight degree by changes in the technical names, due to a failure on the part of authors to designate type species for their genera. The present paper is prepared in the hope of definitely fixing the types for the roundworm genera, especially for those of importance in human and comparative medicine, so that confusion in the future may be reduced.

The adoption of a rule by the International Commission on Zoological Nomenclature to the effect that no new generic name may demand recognition in the future unless its author definitely fixes the type at its original publication is worthy of serious consideration, as such a rule would greatly simplify work.

Respectfully,

D. E. SALMON,
Chief of Bureau.

Hon. JAMES WILSON,
Secretary of Agriculture.
**TABLE OF CONTENTS.**

Summary ............................................................... 7
Part I. Principles involved in designating the types of genera of parasites ............................................. 10-80
    Introduction ................................................................ 10
    Genera other than nematodes included in this paper .......................................................... 11
    Types designated or not designated .................................................................................. 11
    Division of work .......................................................... 12
    Homonyms ................................................................ 12
Historical review of type designation .................................................................................. 12
    The principle of generic types foreshadowed by Linnaeus, 1751 ........................................... 12
    The British Association (Stricklandian) Code ...................................................................... 13
    The Dall Code, 1877 .......................................................... 15
    The American Ornithologists' Union Code, 1886, 1892 ......................................................... 17
    The Code of the German Zoological Society, 1894 ............................................................. 18
    The Merton Rules, 1896 ......................................................... 18
    Gill, 1896 ................................................................ 20
    Durrant, 1898 ................................................................. 21
    Code of Botanical Nomenclature, A. A. A. S., 1904 ........................................................... 22
    The International Code of Zoological Nomenclature, 1904 .................................................. 23
Axioms relative to type species ......................................................................................... 24
Rules and recommendations concerning types ........................................................................ 24
    A. Genera for which types are designated or implied in the original publication ................. 25
       1. Genera originally published with only one species. "Monotypic genera" ......................... 25
          List of genera (chiefly nematodes) originally published with a single species .............. 25
       2. Genera originally published with only one valid species, but also with one or more species inquirendae ........................................................................................................ 29
          Nematode genera of this class ................................................................................... 29
       3. Genera originally published with a species definitely designated as type (type by original designation) ................................................................. 30
          Roundworm genera with types by original designation ................................................ 31
       4. Type by original implication through use of the specific name typicus or typus .................. 31
          Nematode genera with type determined by use of specific name typicus ..................... 32
       5. Type by absolute tautonymy ....................................................................................... 32
          Cases of type by absolute tautonymy ........................................................................ 34
          Case of Angiostoma Dujardin, 1845 .......................................................................... 34
          Case of Anguillula Mueller, 1786 .............................................................................. 34
          Case of Capsularia Zeder, 1800 ................................................................................ 37
          Case of Chaos Linnaeus, 1767 .................................................................................. 38
       6. Type by virtual tautonymy ......................................................................................... 39
       7. Types of rename'd genera ........................................................................................ 40
       8. Type by inclusion ....................................................................................................... 42
       9. Genera containing types of several earlier genera ......................................................... 47
          Case of Acuaria, Spiroplera, Anthuris, and Dispharagus ............................................ 48
TABLE OF CONTENTS.

Part I. Principles involved in designating the types of genera of parasites—Continued.
Rules and recommendations concerning types—Continued.
  B. Genera for which types have been selected in later publications.. 52
     10. Type by subsequent designation................................. 52
         Roundworm genera with types by later designation ... 53
  C. Genera for which no type has been definitely selected .......... 55
     11. Collective biological groups requiring no type species....... 55
     12. Type by elimination........................................... 56
         Elimination of species inquirenda (see p. 29)........... 57
         Elimination of doubtfully referred species.............. 57
         Elimination of species selected as types of other genera.. 58
         Restricted and unrestricted elimination.................... 58
     13. Preference to be shown to species not subsequently classified
         in other genera................................................ 60
     14. Type by page precedence ....................................... 62
     15. Sexually mature forms take precedence over larval or immatu-
         re forms................................................................ 63
     16. Preference to be shown to species examined by author of the
         genus.................................................................. 63
     17. Preference to be shown to species named communis, vulgaris,
         officinalis, or medicinalis...................................... 64
     18. The best described, best figured, best known, or most easily
         obtainable species............................................... 64
     19. The original generic name to go with the greater number of
         species................................................................ 65
     20. Special points to be considered in connection with genera of
         parasitic groups.................................................... 65
     21. Remaining genera mentioned in this paper......................... 66
Correlated nomenclatural questions........................................ 67
  22. Synonymy by original publication................................... 68
  23. Rule of homonyms..................................................... 69
      Roundworm generic names which are absolutely preoccu-
      pied................................................................... 70
      Roundworm generic names which absolutely preoccupy
      other names........................................................... 71
  24. Phononyms................................................................... 72
  25. Doubtful homonyms..................................................... 73
  26. Emendation of names................................................... 76
  27. Nomenclatural status of misprints................................... 78
  28. Origin of the Law of Priority......................................... 78
  29. Rudolphi's Rules of Nomenclature.................................... 78
  30. Polynomial authors between 1758 and 1819.......................... 80

Part II. List of generic names, chiefly nematodes, with their original and type
species........................................................................... 81-150
Addenda.............................................................................. 150
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SUMMARY.

Part I contains a general discussion on determination of generic types.

A genus without a type species is like a ship without anchor or rudder, and a failure on the part of authors to designate types has been one of the most fruitful sources of trouble in systematic zoology and nomenclature. The existing codes of nomenclature recognize the importance of type species, but the rules for their determination are not explicit enough, while the views on the method of determination vary greatly among authors.

It seems desirable, but at present impracticable, to have complete, objective rules covering type determination, whereby the subjective element may be entirely eliminated, and whereby all types may be determined purely from the literature, without reference to the diagnosis or anatomy of an animal. Page precedence, as supported by many systematists, would accomplish this, yet would lead to many difficulties; still it must be admitted that this rule has great advantages despite its disadvantages.

Although it seems impracticable at present to attempt to adopt any complete series of rules on type determination which shall be followed seriatim, still satisfactory rules can be formulated which will cover the majority of cases that arise, and these rules may be supplemented by recommendations which bring to mind methods which it will be well to follow, unless strongly contraindicated by practical considerations. While urging zoologists to designate the type of every new genus proposed in the future, we shall suggest to the International Commission on Zoological Nomenclature the following rules and recommendations, as amendments to the Code, for guidance in determining the types in the case of older genera.

1. RULE.—A genus proposed with a single original species takes that species as type. (Monotypical genera.)

2. RULE.—The type of a genus (containing, from the standpoint of the original author, both valid and doubtful species) must never be selected from the species which the original author of the genus clearly designated as species inquirendae at the time of the publication of the generic name.
3. RULE.—When in the original publication of a genus one of the species is definitely designated as type, this species should be accepted as type, regardless of any other considerations. (Type by original designation.)

4a. RULE.—If, in the original publication of a genus, typicus or typus is used as a new specific name for one of the species, such use shall be construed as “type by original designation.”

4b. RECOMMENDATION.—It is well to avoid the introduction of the names typicus or typus as new names for species or subspecies, since such names are always liable to result in confusion later.

5. RULE.—If a genus, without designated type, contains among its original species one possessing the generic name as its specific or subspecific name, either as valid name or synonym, that species or subspecies becomes ipso facto type of the genus. (Type by absolute tautonymy.)

6. RECOMMENDATION.—If a genus, without designated type, contains among its original species one possessing as specific or subspecific name, either as valid name or as synonym, a name which is virtually the same as the generic name, or of the same origin or same meaning, preference should be shown to that species in designating the type, unless such preference is strongly contraindicated by other factors. (Type by virtual tautonymy.)

7. RULE.—In case a generic name without designated type is proposed as a substitute for another generic name, with or without type, the type of either when established becomes ipso facto type of the other.

8. RULE.—If an author proposes a genus, without designating a type, and includes among the original species [i. e., the valid species from his standpoint] the determined type of an earlier genus, such type becomes ipso facto the type of the new genus. (Type by inclusion.)

9. RULE.—If a genus without a designated type contains types of two or more earlier genera, the type of the new genus is to be selected from the contained types (the case being the same as a genus with two or more species, according to the number of types in question), unless it can be shown that such procedure is directly contraindicated by the original author’s intentions.

10. RULE.—If an author, in publishing a genus with more than one valid species, fails to designate or to indicate its type, any subsequent author may select the type, and such designation is not subject to change. (Type by subsequent designation.)

11. RULE.—Certain biological groups which have been distinctly proposed as collective groups, but not as systematic units of generic rank, may be treated for convenience as if they were genera, but they require no type species. Example: Agamodistomum.

12a. RULE.—The following species are excluded from consideration in selecting the types of genera:

(a) Species which were not included under the generic name at the time of its original publication.

(b) Species which were species inquirenda from the standpoint of the author of the generic name at the time of its publication.

(c) Species which the author of the genus doubtfully referred to it.

(d) Species which have subsequently been selected to serve as types for other genera, unless this applies to all of the available species, in which case the last species so selected becomes the type of the original genus; or unless the species which the original author took as his type has been transferred, in which case the original author’s intentions should be carried out. (Type by elimination.)

12b. RULE.—In case of Linnean genera select as type the most common or the medicinal species. (Linnean rule.)

12c. RECOMMENDATION.—The following species should be shown preference in selecting the type, unless such procedure is contraindicated by the original author’s intentions or by practical considerations:
(a) If the genus contains both exotic and nonexotic species from the standpoint of the original author, the type should be selected from the nonexotic species.

(b) If some of the original species have later been classified in other genera, but not designated as their types, preference should be shown to the species still remaining in the original genus.

(c) All other things being equal, page precedence should obtain in selecting a type.

(d) Species based upon sexually mature specimens should take precedence over species based upon larval or immature forms.

(e) All other things being equal, show preference to a species which the author of a genus actually studied at or before the time he proposed the genus.

(f) Show preference to a species bearing the name *communis*, *vulgaria*, *medicinalis*, or *officinalis*.

(g) Show preference to the best described, best figured, best known, most easily obtainable species, or of which a type specimen can be obtained.

(h) Show preference to a species which belongs to a group containing as large a number of the species as possible.

(i) In parasitic genera, select if possible a species which occurs in man or in some food animal, or in some very common and widespread host.

By following the foregoing rules and recommendations, types may be designated for the great majority of genera without reference to any subjective interpretation of diagnosis or anatomical characters and their value; in the majority of cases the type will be selected largely on the basis of the original publication, yet the inconveniences connected with the "rule of page precedence" will be very largely avoided.

In connection with correlated nomenclatural questions, the conclusion is drawn that the principle of "synonymy by original publication," despite its Draconian nature, is a just rule to follow (p. 68).

The "rule of homonyms" for absolute homonyms, as provided for in the International Code, is unreservedly adopted (p. 69), but the Merton "rule of phononyms" (p. 72) is rejected, while doubtful homonyms (p. 73) are accepted as distinct names.

It is a matter of regret that we do not see our way clear to apply the rule for emendation until its supporters accomplish the vast amount of pioneer work (p. 76) which is prerequisite to a practical application of their rule; hence, for the present, we find ourselves forced to continue to use "original orthography," be this good, bad, or indifferent.

Contrary to some authors it is maintained (p. 78) that misprints have a definite nomenclatural status.

The Law of Priority is not a new idea, as assumed by some zoologists, but dates from Linneus, and contrary to the apparent assumption of some writers, it was accepted by Rudolphi in 1801, who proposed a code of nomenclature (p. 78) which has been very generally overlooked.

Some of the difficulties of which some authors complain in helminthological nomenclature could be obviated if the rule relative to polynomial authors (p. 80) were to be more rigidly enforced for authors between 1758 and 1819. By an agreement among helminthologists, to the effect that certain doubtfully binomial works were to be considered polynomial, and therefore excluded from consideration in nomenclatural matters, not an inconsiderable number of the difficulties which arise could be avoided.

Part II contains a list of all the roundworm genera accessible in the card catalogue of the Bureau of Animal Industry, together with certain other genera which are cited for practical reasons. With each genus the original species are given, and in most instances the type species is definitely fixed.

Bibliographic references in this paper are taken from the Index-Catalogue of Medical and Veterinary Zoology (Bulletin No. 39, Bureau of Animal Industry).
PART I.—PRINCIPLES INVOLVED IN DESIGNATING THE TYPES OF GENERA OF PARASITES.

INTRODUCTION.

Cook (1900) has well remarked that "botany without designation of types is like geography without position," and the same remark applies with equal force to zoology. The designation of the typical species of genera is one of the most important points in nomenclature.

Unfortunately none of the existing codes treats of the subject of type designation in an entirely satisfactory manner. Unfortunately, also, there is considerable diversity of opinion among authors as to the methods to be followed in selecting the type. In rare instances (Snellen), a systematist will deny the advisability of acknowledging that a genus should have a type. Very commonly, more particularly among earlier authors, the selection of generic types has been ignored. Some authors consider that the selection of a type should be made purely by rule, thus eliminating all subjective element; for instance, by selecting the first species in the original list. Other workers consider that a comparison of the original generic diagnosis with the original specific diagnosis is the most important process to be considered. Still other systematists are inclined to ignore the original diagnoses. Some systematists have attempted to formulate a definite series of rules, to be followed seriatim. Others doubt the advisability of rules to cover the subject and maintain that the entire process is one to be governed by the particular case which arises for decision. Some workers consider that the establishment of types is to be based primarily upon anatomical study; others maintain it is to be based purely upon a study of the literature. Several systematists have admitted that they disliked to determine types, because it seemed impossible to do so in such a way as to avoid polemic criticism.

We have been requested by several authors, botanical as well as zoological, to formulate our views on this subject, and it is partially in compliance with these requests that the present paper is prepared. A further reason for discussing the matter is that we consider it one of the most important subjects in the entire field of nomenclature, and we view the practice of failing to designate the type species as one of the most fruitful sources of confusion in systematic writings.
Our general position on the subject may be summed up as follows: Types should be determined for all generic names as soon as possible, since a generic name without a definitely established type is always an element of danger in both systematic and bibliographic zoology. Although it does not seem possible to lay down any series of rules for the determination of types which will meet with the approval of all systematists, or which will not in some instances lead to rulings that will arouse criticism on the part of some authors, still it seems justified to adopt certain rules covering the subject and to carry them out consistently, even at the risk of disapproval of other workers. These rules should be objective so far as possible; recommendations (in distinction to rules) can not, however, be entirely avoided, since there are some cases in which it hardly seems possible at present to exclude entirely the subjective element.

Satisfactory rules can be made which will govern a large percentage (perhaps 80 to 90 per cent) of the cases. Any author who attempts to determine types in the remaining cases will incur criticism from one source or another, no matter what species he selects.

In determining types for certain of the nematode genera, this has accordingly been done with full knowledge of the fact that any person who attempts work of this kind subjects himself to criticism, frequently expressed in terms more vigorous than diplomatic.

In discussing the principles involved, the parasites especially have been held in mind, but the principles involved in helminthology are the same as those involved in other fields of zoology. One can not, therefore, plead for any exceptions in favor of helminthology, since exceptions in this field invite exceptions in other fields, and are thus both dangerous and shortsighted. The more exceptions admitted, the less hope there is for eventually having an international nomenclature. Better it is by far that a temporary inconvenience be borne than that exceptions be made in favor of any one group.

**GENERA OTHER THAN NEMATODES INCLUDED IN THIS PAPER.**

It has been found advisable to include in this list a few names which do not belong to the Nematoda, but which have at one time or another been used as or confused with nemathelminth names.

**TYPES DESIGNATED OR NOT DESIGNATED.**

For the generic names collected, an attempt has been made to determine the type in case the proper data were accessible. In some cases in which we have hesitated, for various reasons, to definitely fix the type species at present, species have been suggested with reserve (preceding the specific name by "?" or "probably") which it would probably be best to take as type, so far as the data are accessible.
This method is followed in order not to prevent some other author from selecting some other species in case it may seem best for him to do so. The action on these cases in the present paper is not to be interpreted as designation of type, but simply as an indication of the species which, other things being equal, it seems to be best (so far as data are accessible at the present moment) to select as "anchors" for the genera in question.

DIVISION OF WORK.

The list of genera (pp. 81-150), upon which the work is based, was originally compiled several years ago. Most of the names were taken from the card catalogue of the Bureau of Animal Industry. In the bibliographic work very material aid has been rendered by Miss Caroline Myers, of the Bureau of Animal Industry, and it is a pleasure to express our obligations to her for her pain-taking labor, especially in tracing obscure references. The designation of types is the joint work of Stiles and Hassall. Owing to a prolonged absence of Hassall from Washington, during which time joint work was impossible, the discussion of the principles of type designation devolved upon Stiles.

HOMONYMS.

In the following list the homonyms (identical names) and phononyms (similar names) are given, so far as accessible in the Bureau catalogue. The orthography, authors, and dates of such names have not been personally verified by us, but they have been accepted from the lists by Agassiz, Scudder, the Zoological Record, Zoologischer Anzeiger, Palmer, Sherborn, Waterhouse, etc.

HISTORICAL REVIEW OF TYPE DESIGNATION.

To give a complete historical review of the subject of type designation would exhaust both the readers and the writers, but in the present paper reference will be made to some of the more important historical data.

THE PRINCIPLE OF GENERIC TYPES FORESHADOWED BY LINNÆUS, 1751.

The idea of the selection of a single species as type for a genus was foreshadowed by Linnaeus (1751, 197) in his Philosophia Botanica as follows: "Si genus receptum, secundum jus nature et artis, in plura dirimi debet, tum nomen antea commune manebit vulgarissimae et officiali plantae."

While Linnaeus referred especially to plants, it has become customary to interpret the Linnaean Code as applicable in zoology also, and it is possible therefore to determine the types of a number of Linnaean genera on the basis of this passage.
THE BRITISH ASSOCIATION (STRICKLANDIAN) CODE.

It would appear that the Stricklandian Code was perhaps the first publication in which the subject of types was discussed and formulated in a rather definite manner; hence, from the historical view point the passages in question are important.

The British Association Code expressed the law of priority as follows:

Law of priority the only effectual and just one.—It being admitted on all hands that words are only the conventional signs of ideas, it is evident that language can only attain its end effectually by being permanently established and generally recognized. This consideration ought, it would seem, to have checked those who are continually attempting to subvert the established language of zoölogy by substituting terms of their own coinage. But, forgetting the true nature of language, they persist in confounding the name of a species or group with its definition; and because the former often falls short of the fullness of expression found in the latter, they cancel it without hesitation and introduce some new term which appears to them more characteristic, but which is utterly unknown to the science and is therefore devoid of all authority. If these persons were to object to such names of men as Long, Little, Armstrong, Golightly, etc., in cases where they fail to apply to the individuals who bear them, or should complain of the names Gough, Lawrence, or Harrey, that they were devoid of meaning, and should hence propose to change them for more characteristic appellations, they would not act more unphilosophically or inconsiderately than they do in the case before us; for, in truth, it matters not in the least by what conventional sound we agree to designate an individual object, provided the sign to be employed be stamped with such an authority as will suffice to make it pass current. Now, in zoology no one person can subsequently claim an authority equal to that possessed by the person who is the first to define a new genus or describe a new species, and hence it is that the name originally given, even though it may be inferior in point of elegance or expressiveness to those subsequently proposed, ought as a general principle to be permanently retained. To this consideration we ought to add the injustice of erasing the name originally selected by the person to whose labors we owe our first knowledge of the object; and we should reflect how much the permission of such a practice opens a door to obscure pretenders for dragging themselves into notice at the expense of original observers. Neither can an author be permitted to alter a name which he himself has once published, except in accordance with fixed and equitable laws. It is well observed by Decandolle, "L'auteur même qui a le premier établi un nom n'a pas plus qu'un autre le droit de le changer pour simple cause d'impropriété. La priorité en effet est un terme fixe, positif, qui n'admet rien, ni d'arbitraire ni de partial."

For these reasons we have no hesitation in adopting as our fundamental maxim the "law of priority," viz:

§1. The name originally given by the founder of a group or the describer of a species should be permanently retained to the exclusion of all subsequent synonyms (with the exceptions about to be noticed).

* * * *

Generic names to be retained for the typical portion of the old genus.—When a genus is subdivided into other genera, the original name should be retained for that portion of it which exhibits in the greatest degree its essential characters as at first defined. Authors frequently indicate this by selecting some one species as a fixed point of reference which they term the "type of the genus." When they omit doing so, it may still in many cases be correctly inferred that the first species mentioned on their
list, if found accurately to agree with their definition, was regarded by them as the type. A specific name or its synonyms will also often serve to point out the particular species which by implication must be regarded as the original type of a genus. In such cases we are justified in restoring the name of the old genus to its typical signification, even when later authors have done otherwise.

We submit, therefore, that—
§4. The generic name should always be retained for that portion of the original genus which was considered typical by the author.

Example.—The genus *Picumnus* was established by Temminck and included two groups, one with four toes, the other with three, the former of which was regarded by the author as typical. Swainson, however, in raising these groups at a later period to the rank of genera gave a new name, *Asthenuerus*, to the former group and retained *Picumnus* for the latter. In this case we have no choice but to restore the name, *Picumnus* Temm., to its correct sense, canceling the name *Asthenuerus* Sw. and imposing a new name on the three-toed group which Swainson had called *Picumnus*.

When no type is indicated, then the original name is to be kept for that subsequent subdivision which first received it.—Our next proposition seems to require no explanation.

§5. When the evidence as to the original type of a genus is not perfectly clear and indisputable, then the person who first subdivides the genus may affix the original name to any portion of it at his discretion, and no later author has a right to transfer that name to any other part of the original genus.

A later name of the same extent as an earlier to be wholly canceled.—When an author infringes the law of priority by giving a new name to a genus which has been properly defined and named already, the only penalty which can be attached to this act of negligence or injustice is to expel the name so introduced from the pale of the science. It is not right, then, in such cases, to restrict the meaning of the later name so that it may stand side by side with the earlier one, as has sometimes been done. For instance, the genus *Monaulus* Vieill., 1816, is a precise equivalent to *Lophophorus* Temm., 1813, both authors having adopted the same species as their type, and therefore, when the latter genus came, in the course of time, to be divided into two, it was incorrect to give the condemned name, *Monaulus*, to one of the portions.

To state this succinctly:

§6. When two authors define and name the same genus, both making it exactly of the same extent, the later name should be canceled in toto, and not retained in a modified sense.

This rule admits of the following exception:

§7. Provided, however, that if these authors select their respective types from different sections of the genus, and these sections be afterwards raised into genera, then both these names may be retained in a restricted sense for the new genera, respectively.

Example.—The names *Eledemia* and *Melanetta* were originally coextensive synonyms, but their respective types were taken from different sections, which are now raised into genera, distinguished by the above titles.

No special rule is required for the cases in which the later of two generic names is so defined as to be less extensive in signification than the earlier, for if the later includes the type of the earlier genus, it would be canceled by the operation of §4; and if it does not include that type, it is in fact a distinct genus.

But when the later name is more extensive than the earlier, the following rule comes into operation:

A later name equivalent to several earlier ones is to be canceled.—The same principle which is involved in §6 will apply to §8.

§8. If the later name be so defined as to be equal in extent to two or more previously published genera, it must be canceled in toto.
Example.—*Psarocolius* Wagl., 1827, is equivalent to five or six genera previously published under other names, therefore *Psarocolius* should be canceled.

If these previously published genera be separately adopted (as is the case with the equivalents of *Psarocolius*), their original names will of course prevail; but if we follow the later author, in combining them into one, the following rule is necessary:

A genus compounded of two or more previously proposed genera whose characters are now deemed insufficient should retain the name of one of them.—It sometimes happens that the progress of science requires two or more genera, founded on insufficient or erroneous characters, to be combined together into one. In such cases the law of priority forbids us to cancel all the original names and impose a new one on this compound genus. We must therefore select some one species as a type or example, and give the generic name which it formerly bore to the whole group now formed. If these original generic names differ in date, the oldest one should be the one adopted.

§9. In compounding a genus out of several smaller ones, the earliest of them, if otherwise unobjectionable, should be selected and its former generic name be extended over the new genus so compounded.

Example.—The genera *Accentor* and *Prunella* of Vieillot, not being considered sufficiently distinct in character, are now united under the general name *Accentor*, that being the earliest.

It will thus be seen that the principle of "page precedence" was recognized by this Code, §4, but not as an ironclad law; the principle of type by tautonymy also seems to be referred to, §4; further, the principle of the first reviser is clearly referred to under §5; the principle of "type by inclusion" is evident in §6.

The principle of "type by tautonymy," apparently indicated in the B. A. Code, is said to have first been advocated by Newton (1871, 1876, 1879). It was formulated by Carus and Stiles in 1898, and has recently (1902) been formally adopted by a number of American zoologists.

THE DALL CODE, 1877.

In the Dall (1877a, 39–40) Code the following paragraphs refer directly or indirectly to generic types:

§LI. When a group or genus is divided into two or more groups the original name must be preserved and given to one of the principal divisions. The division including the typical species of the primitive genus, if any type had been specified, or the oldest, best known, or most characteristic of the species originally included when the primitive genus was first described by its author, is the portion for which the original name is to be preserved. If there is no section specially so distinguished, that which retains the larger number of species should retain the old name (D. C.), but the latter can not be applied to a restricted group containing none of the species referred to the primitive group by its author at the time when it was described or when he enumerated the species contained in it.

The majority of the replies to query XII of the circular concur in the above.

According to Linnaeus the name should remain with the most common and official species; an equivocal expression if there is one which is most common and another the official species. The *Convolvulus septem* and the *Erica vulgaris* were very common and very anciently named species when Brown made of one the genus *Calystragia*, and De Candolle of the other, his genus *Calluna*. It was, however, much better to do this than to change the names of a hundred species of *Convolvulus* and 200 of *Erica*. When there is no authoritative type the number of species should always be taken into consideration. (D. C.)
§1.II. When an author has specified no type, it is then necessary in dividing his genus to retain his name for the subdivision containing the species which the next subsequent author treating of the genus has specified or regarded as the typical exemplar. (B. A.) If no subsequent author has selected a type, the first species of the primitive author may frequently be taken as the type, or a species may be selected from among those originally specified as belonging to the genus when it was formed, due regard being paid to the necessity of retaining as many of the original species as possible in the division which is to retain the old name.

It would manifestly be liable to introduce errors and confusion if it were insisted that the first species should invariably be taken as the type, or were it permitted to take species subsequently added to the group, and which the original author did not know when he established his genus. No arbitrary rule will suffice to determine offhand questions of so much complication as is often the decision in regard to the type of an ancient genus which has been studied by a number of authors.

In the first of the above cases lists are often arranged in alphabetical or faunistic order, or the aberrant species are placed at or near the beginning and end of the list, while the more generalized and characteristic species are put between the others. In the second case, aberrant species might be added and subsequently taken away from the genus, carrying with them the name consecrated by the primitive author to the very group which the subsequent reviser might then seize on for his own. Still more, the aberrant species carrying the primitive generic name might subsequently be found to belong to a genus described before the one revised. Then the name originally given to a valid group might be subject to rejection as a synonym, while the valid group itself which originally bore that name was rejoicing under a new appellation received from the industrious revisers! Absurd as it may appear, mutations similar to this might be mentioned.

The answers received to questions on this point in the circular will be seen to be by a large majority in concurrence with this section.

§1.III. In dividing a genus of which there are already synonyms, if these synonyms or any of them are typified by the same species or group of species as that or those originally selected as types for the primitive genus, the names should be canceled in toto and not used for the restricted subdivisions. (B. A.)

To use strictly equivalent synonyms in a new sense for different divisions in one family is sure to create confusion and necessitate lengthy discriminating passages in subsequent synonymical work. When the so-called synonyms are founded on species belonging to different sections of the genus, although the names may have been considered as coextensive in their application, it is desirable to use these names to indicate the divisions of the genus when it may be revised. (B. A.) In fact there is hardly any difference between the latter case and the revival of a valid but forgotten name for the group properly designated by it and to which another legal name can not be applied.

§1.IV. In the case of the consolidation of two or more groups of the same nature, the oldest name must be retained for the whole. If both or all are of the same date, the reviser may select the one to be retained. (B. A., D. C.)

If a name of a genus be so defined as to be equal in extent to two or more previously published genera, it must be canceled in toto. (B. A.) Example: Tritonium Müller was so defined as to be equal to Buccinum, Strombus, and Murex of Linnaeus. Hence it should be wholly rejected. Psaracolius Wagler is equivalent to five or six previously published genera, and must, therefore, be canceled. (B. A.)

It follows from the above that when it is necessary to unite several groups already named the earliest unobjectionable name must be retained for the consolidated group, with a modified diagnosis.
Determinatio of Generic Types, Etc.

The American Ornithologists’ Union Code, 1886, 1892.

The American Ornithologists’ Union Code (1886, 1892, 42–44) treats generic types as follows:

Canon XX. When a genus is subdivided the original name of the genus is to be retained for that portion of it which contained the original type of the genus when this can be ascertained.

Remark.—This principle is universally conceded and requires no special comment.

Canon XXI. When no type is clearly indicated the author who first subdivides a genus may restrict the original name to such part of it as he may judge advisable, and such assignment shall not be subject to subsequent modification.

Remarks.—This, in substance, is the rule promulgated by the B. A. Committee in 1842, and it has been reiterated in most subsequent nomenclatural codes. Its propriety is perfectly apparent, and, as regards the future, no trouble need arise under it. It has happened, however, in the subdivision of comprehensive genera of Linnaeus and other early authors that most perplexing complications have arisen, successive authors having removed one species after another as types or elements of new genera till each of the species included in the original genus has received a new generic designation, while the old generic name, if not lost sight of, has come to be applied to species unknown to the author of the original genus! This, of course, is obviously and radically wrong.

Canon XXII. In no case should the name be transferred to a group containing none of the species originally included in the genus.

Remark.—This rule is in strict accordance with the B. A. Code and with current usage.

Canon XXIII. If, however, the genus contains both exotic and nonexotic species—from the standpoint of the original author—and the generic term is one originally applied by the ancient Greeks or Romans, the process of elimination is to be restricted to the nonexotic species.

Remarks.—The purpose of this restriction in the application of the “principle of elimination” is to prevent the palpable impropriety of the transference of an ancient Greek or Latin name to species unknown to the ancients. By the unrestricted action of the principle of elimination the genus Tetrao, for example, becomes transferred to an American species, viz, Tetrao phasianellus of Linnaeus, the transference being in itself not only undesirable, but, as it happens, subversive of currently accepted names. The working of the proposed modification of the principle of elimination may be thus illustrated.

The genus Tetrao Linn., 1758, contains the following:

Nonexotic species.
1. urogallus (Urogallus Flem., 1822).
2. tetrix.
4. lagopus (Lagopus Briss., 1760).
7. bonasia (Bonasia Steph., 1819, plus Bon., 1828).

Exotic species.
3. canadensis.
5. phasianellus.
6. cupido.

This leaves tetrix as the type of the genus Tetrao, since Lyrurus Sw. was not established for it till 1831.

On the other hand, the process of unrestricted elimination would result as follows:

1. urogallus (Urogallus Flem., 1822).
2. tetrix (Lyrurus Sw., 1831).
3. canadensis (Canace Reich., 1852).
4. lagopus (Lagopus Briss., 1760).
5. phasianellus (Pediocetes Bd., 1858).
6. cupido (Tympanuchus Glog., 1842; Cupidonia Reich., 1850).
7. bonasia (Bonasia Steph., 1819, plus Bon., 1828).

6328—No. 79—05—2
Which would leave, as type for the genus *Tetrao, T. phasianellus*, which was the last species to be removed from the genus *Tetrao*, its removal being made by Baird in 1858, who made it the type of a genus *Pediocetes*. No species being now left to bear the name *Tetrao*, it must be restored either to *T. phasianellus* (under the unrestricted action of the principle of elimination), or to *T. lyurus* (under the above-proposed restricted action of the principle of elimination). In the latter case, this ancient Greek name for a European species of Grouse would be still retained in nearly its original sense.

As in the case of *Tetrao*, so in the cases of many Linnaean and Brissonian genera, it has happened that, in the process of gradual elimination, exotic (or non-European) species only have been finally left in the original genus, while the European species have successively been made types of separate genera.

**Canon XXIV.** When no type is specified, the only available method of fixing the original name to some part of the genus to which it was originally applied is by the process of elimination, subject to the single modification provided for by Canon XXIII.

**Canon XXV.** A genus formed by the combination of two or more genera takes the name first given in a generic or subgeneric sense to either or any of its components. If both or all are of the same date, that one selected by the reviser is to be retained.

**Remarks.—** The propriety of this rule is too obvious to require special comment. It therefore follows that a later name equivalent to several earlier ones must be canceled, and that the earliest name applied to any of the previously established genera thus combined is to be taken as the designation of the new combination.

**Canon XXVI.** When the same genus has been defined and named by two authors, both giving it the same limits, the later name becomes a synonym of the earlier one; but in case these authors have specified types from different sections of the genus, and these sections be raised afterwards to the rank of genera, then both names are to be retained in a restricted sense for the new genera.

**THE CODE OF THE GERMAN ZOOLOGICAL SOCIETY, 1894.**

The Code (1894, 13–14) of the German Zoological Society contains the following provisions regarding types:

§25. Sind für eine Gattung verschiedene zulässige Namen annähernd gleichzeitig aufgestellt worden, so dass die Priorität nicht festzustellen ist, so ist derjenige Name zu wählen, für welchen eine "typische Art" aufgeführt war. In allen dadurch nicht zu erledigenden Fällen ist die Entscheidung des ersten Autors, welcher die Synonymie der verschiedenen Namen nachweist, massgebend.


**THE MERTON RULES, 1896.**

In the “Merton Rules” (Walsingham & Durrant, 1896, 14–16) are found the following passages relating to types of genera:

40. The type of a genus must be one of the species originally placed in the genus by its founder, but no species can be regarded as a possible type if it can be shown that the founder of the genus had not seen it.

[N. B.—This and the following rules (40–47) apply with equal force to the sections of any grade.]
41. A genus from its foundation belongs to one of three classes:
   
   (1) **Monotypical** (i.e., described from a single species, no other being known, or described from a single specified species with which are associated other species considered to be identical in structure).
   
   (2) **Isotypical** (i.e., described from more than one species, all of which are congeneric).
   
   (3) **Heterotypical** (i.e., described from more than one species, these differing in structure).
   
   (In class one, the single species described, or the single species cited, is the type. 
   In classes two and three, the sum of the species therein contained constitutes the “type” of the original author, unless it was indicated that one or more of these species were not considered to be typical.)

42. If the author of an isotypical or heterotypical genus subsequently removes one of his original types to another genus, this species ceases to be a possible type for the genus in which it was first placed.

43. In ascertaining the type of a genus not monotypical absolute adherence must be given to the law of priority.

44. He who first restricts a genus under its own name limits the possible type to one of the species included in his restriction, but if possibly avoidable a heterotypical genus must not be restricted to the detriment of an existing monotypical or isotypical genus.

45. When a heterotypical genus by restriction or specification of type becomes monotypical, the single species to which it is limited must thenceforth be accepted as the type of the genus, provided that this species had not previously been constituted the type of another genus.

46. Restriction is effected by omission, by elimination, or by specification.

47. The name of a heterotypical genus dates from its publication, but it dates as a genus from the time that it became isotypical or monotypical; e.g.,

   *Tortrix*, Jones 1850 (heterotypical for)
   (1) *viridana*, Jones.
   (2) *atrana*, Jones.

   *Heterognomon*, Smith 1855 (type) *viridana*, Jones.

   *Pandemis*, Smith 1855 (type) *atrana*, Jones.

   (Jones first published a generic name for which *viridana* was a possible type, but Smith first established *Heterognomon* as a genus based on the type *viridana*. The law of priority forbids the subsequent restriction of *Tortrix* to the detriment of *Heterognomon*, and therefore by elimination *atrana* was constituted the type of *Tortrix*, Jones, with which *Pandemis*, Smith, is synonymous.

   N. B.—*For brevity of illustration a fictitious example has been employed.*

48. If a subsequent author subdivide a heterotypical genus, distributing its types among differently named genera but retaining the original name as a subgeneric heading in more than one genus to which he refers a type, the law of priority shall be rigidly enforced, and his first limitation shall be taken as restricting the type; but should he in addition make use of the heterotypical generic name in a generic sense, it shall be held that it was his intention to limit the type to the species referred to in this sense, and his previous subgeneric limitation shall be ignored.

   e.g., (1) Hübner published the heterotypical genus *Eudemis*, Verz. bek. Schm. 382 (1826). Stephens adopted this name in a subgeneric sense for the four genera *Ditula* Stph., *Pseudotomia* Stph., *Cnephasia* Crt., and *Sericoris* Tr. He constituted *propunctana*, F. (=*porphyra*, Hb., Stph.) the type of the first subgenus so named under *Ditula*. The law of priority should prevent any other species from becoming the type of *Eudemis* Hb.
e. g., (2) Hübner published the heterotypical genus *Notocelia*, Verz. bek. Schm. 379-80 (1826). Stephens' first use of this name is as a subgenus of *Spilonota* Stph., in which sense *ocellana* F. became the type of *Notocelia* Hb.  

But a few pages later he employed *Notocelia* in a generic sense with the type *uddmanniana*, L., describing the genus and remarking on its synonymy. It is, therefore, obvious that it was his intention to retain the full generic value of the name, and his second limitation should be adopted in preference to his first.  

GILL, 1896.  

Gill (1896, 20-21), in discussing types, makes the following remarks:  

**Typonyms.**  

The question, what is necessary to insure reception of a generic name, is one of those concerning which there is a difference of opinion. By some a definition is considered to be requisite, but by others the specification of a type is only required. But the demand in such case is simply that the definition shall be made. It may be inaccurate or not to the point; it may be given up at once and never adopted by the author himself afterwards or by anyone else. Nevertheless, the condition is fulfilled by the attempt to give the definition. In short, the attempt is required in order that the competency (or its want) of the namer may be known, and if incompetency is shown thereby—no matter! The attempt has been made. The indication by a type is not sufficient.  

Anyone who has had occasion to investigate the history of any large group must have been often perplexed on determining on what special subdivision of a disintegrated genus the original names should be settled. The old genus may have been a very comprehensive one, covering many genera and even families of modern zoology, and of course the investigator has to ignore the original diagnosis. He must often acknowledge how much better it would have been if the genus had been originally indicated by a type rather than a diagnosis. Many naturalists, therefore, now recognize a typonym to be eligible as a generic name. Among such are those guided by the code formulated by the American Ornithologists' Union, to which reference may be made and in which will be found some judicious remarks on the subject in Canon XLII. Certainly it is more rational to accept a typonym than to require a definition for show rather than use. Nevertheless, I fully recognize the obligation of the genus-maker to indicate by diagnosis, as well as type, his conception of generic characters.  

**First Species of a Genus Not its Type.**  

On account of the difficulty of determining the applicability of a generic name when a large genus is to be subdivided, it has been the practice of some zoologists to take the first species of a genus as its type. This, it has been claimed, is in pursuance of the law of priority. It is, however, an extreme, if not illegitimate, extension of the law, and has generally been discarded in recent years. But in the past it had eminent advocates, such as George Robert Gray in Ornithology and Pieter Van Bleeker in Ichthyology. A few still adhere to the practice, and within a few months two excellent zoologists have defended their application of names by statements that the first species of the old genera justified their procedure. The contention of one involves the names which shall be given to cray-fishes and lobsters.  

It is evident that the fathers of zoological nomenclature never contemplated such a treatment of their names, and the application of the rule to their genera would result in some curious and unexpected conditions. Let us see how some genera of
Linnæus would fare. The first species of Phoca was the fur seal, the first species of Mustela the sea otter, the first of Mus the guinea pig, and the first of Cervus was the giraffe. These are sufficient to show what incongruities would flow from the adoption of the rule.

DURRANT, 1898.

An exceedingly interesting and important correspondence on the subject of "Nomenclature of Lepidoptera: Correspondence relating to questions circulated by Sir George F. Hampson, Bart.," was published by Durrant in 1898. Opinions are cited from Prof. Scudder, Prof. Fernald, Prof. J. B. Smith, Dr. Standinger, Herr P. C. T. Snellen, Prof. Aurivillius, Prof. A. R. Grote, Lord Walsingham, E. Meyrick, esq., W. F. Kirby, esq., and Sir G. F. Hampson.

Of these, Snellen stood alone in totally rejecting the system of generic types. The following is an analysis of the replies of the other ten men:

1. The type of a genus must be a species originally included in it by its founder. (Adopted by all ten men.)
2. The type must conform to the original description of the genus (a species excluded by the description cannot be the type). (Adopted by all ten.)
   2a. Unless direct error of observation can be inferred. (Meyrick and Kirby.)
   2b. And to the meaning (if any) of the generic name. (Meyrick, Kirby, Hampson, Walsingham.)
3. That a species included with doubt can not be type. (Walsingham, Grote, Kirby.)
4. That a name included (without the species being known to the founder) can not establish any claim to the recognition of the species as a possible type. (Adopted by Hampson, Walsingham, and Smith; apparently opposed by Kirby.)
5. The first species, or the first species agreeing with the description to be considered the type. (Adopted by Hampson and Standinger; opposed by other eight.)
6. Subsequent citation or restrictions must be accepted in chronological sequence:
   6a. If they are not at variance with the original intention of the author. (Walsingham, Meyrick, Kirby, Fernald, Smith, Scudder, Grote, apparently Standinger.)
   6b. Disregarding the supposed intentions of the author but not any clear or evident intention. (Grote.)
6c. Providing that the subsequent author expressly fixed the type or intentionally divided the genus and that he retained the old name for one part; the effect of omission of species from merely faunistic works to be ignored. (Aurivillius.)
6d. A species subsequently removed by the founder to another genus ceases to be a type of the original genus. (Walsingham.)
7. When the historical method has been exhausted the species (or group of species) which agrees best with the description should be regarded as typical. (Walsingham, Meyrick, Fernald, Smith, Aurivillius.)
   7a. But if all equally agree the type may be fixed at discretion. (Meyrick, Walsingham, Smith.)
   7aa. But would assume the type to be a species from the author's own country, the one with which he seems to be most familiar, and if the preparatory stages are mentioned should assume the commonest species (as the one with which he was likely to have the greatest acquaintance) to be the type. (Smith.)
   7b. If all agree equally well the first species is the type. (Fernald, Kirby.)
   7c. If two or more agree better than the remainder, the first of those that do agree is the type. (Fernald, Kirby.)
7d. If one species is more fully described than the others, or if it is figured, it should be regarded as the type. (Kirby.)

7e. The majority of homogeneous species should be taken as representing a restricted genus. (Kirby.)

8. If the generic characters are better developed in one species (or group of species) this species (or group) must be held typical. (Apparently ignoring previous action.) (Aurivillius.)

9. If the description and included species prove that two or more genera were intended to include the same animals, they must be regarded as synonyms. (See B. A. Code, § 6.) (Aurivillius.)

9a. If, however, the original types of these genera were heterotypical each of the genera is valid for its own type. (B. A. Code, § 7.) (Durrant.)

9b. If types heterotypical in structure have been assigned to each genus (there being no evidence to disprove the possibility of their having been the original types) the genera should be accepted in their restricted sense. (Durrant.)

CODE OF BOTANICAL NOMENCLATURE, A. A. A. S., 1904.

Of the botanical codes we will mention only the Code of Botanical Nomenclature (1904), which the Nomenclature Commission of the Botanical Club of the American Association for the Advancement of Science has proposed for consideration of the International Botanical Congress (Vienna, 1905) as substitute for the Code of 1867. This newly proposed code contains the following paragraphs regarding types:

Canon 15. The nomenclatorial type of a genus or subgenus is the species originally named or designated by the author of the name. If no species was designated, the type is the first binomial species in order eligible under the following provisions:

(a) The type is to be selected from a subgenus, section, or other list of species originally designated as typical.

Examples.—Epilogramme Kuhn, Festschr. 50-Jahr. Jah. Königs. Realschule zu Berlin, 332 (1882), is typified by the first-mentioned species of the second section Epilogramme, and not from species included in the first section Jamesonia, which is based on a generic name previously published; Phania DC. Prodr. 5: 114 (1826), is typified by P. multicaulis DC., the only species of the section Euphania.

(b) A figured species is to be selected rather than an unfigured species in the same work; or, in the absence of a figure, preference is to be given to a species accompanied by the citation of a figure.

Examples.—Lespedeza Michx. Fl. Bor. Am. 2: 70 (1803), is typified by L. procumbens Michx. loc. cit. pl. 39, the species first figured; Basanacantha Hook. f. in Benth. & Hook. Gen. Pl. 2: 82 (1873), is typified by Randia tetracantha (Cav.) DC., the second species cited, as this had been figured by Cavanilles, whereas Randia Humboldtiana DC., the species first mentioned by Hooker, had not been figured.

(c) The types of genera adopted through citations of nonbinomial literature (with or without change of name), are to be selected from those of the original species which receive names in the first binomial publication. The genera of Linnaeus' Species Plantarum (1753) are to be typified through the citations given in his Genera Plantarum (1754).

Note.—The Species Plantarum contains no generic references, but the 1754 edition of the Genera Plantarum was evidently prepared at the same time and was in effect a complementary volume of the same work. It accords much more nearly than other editions with the treatment followed in the Species Plantarum, and thus
makes it possible to retain more of the Linnaean generic names in their current application.

**Examples.**—Cypripedium L. Sp. Pl. 951, a genus adopted from Tournefort with a change of his name Calceolus, is typified by *Cypripedium Calceolus*, the only species common to both authors; Seseli L. Sp. Pl. 259, a genus adopted from Boerhaave, is typified by the second species of Linnaeus, *Seseli montanum*, which is the first in Linnaeus of the species common to both authors; Silene L. Sp. Pl. 416, a genus adopted from Dillenius with a change of his name Viscago, is typified by *Silene anglica*, the first in Linnaeus of the thirteen species figured by Dillenius; Fritillaria L. Sp. Pl. 303, a genus adopted from Tournefort, is typified by the fifth species of Linnaeus, *Fritillaria Meleagris*, which is one of the three species included in *Fritillaria* by both authors, and is selected from these three because it is the one figured by Tournefort.

(d) When a prebinomial generic name is displaced by the publication of a generic name within binomial usage, the application of the displaced name to a species under the new generic name designates the type.

**Example.**—Dianthus L. Sp. Pl. 409, a genus adopted from Tournefort with a change of his name Caryophyllus, is typified by *Dianthus Caryophyllus*, one of the fifteen original species of Linnaeus.

(e) The application to a genus of a former specific name of one of the included species, designates the type.

**Examples.**—Amsonia Walt. Fl. Car. 98 (1788), is typified by *Tabernea montana Amsonia L.*, one of its two original species; Sordaria Ces. & De N. Comm. Soc. Crit. Ital. I: 225 (1863), is typified by *Spharia Sordaria Fr.*, one of its twelve original species.

(f) To avoid change in the current application of a Linnaean generic name, a well-known economic species may be selected as the type, in accordance with the principle stated by Linnaeus (Phil. Bot. 197. 1751): "Si genus receptum, secundum jus nature et artis, in plura dirimi debet, tum nomen antea commune manebit vulgatissime et officiali plante."

**Examples.**—Poa L. Sp. Pl. 67, is typified by *P. pratensis L.*, the commonest of its original species; Mollugo L. Sp. Pl. 89, is typified by *M. verticillata L.*, the commonest of its original species.

THE INTERNATIONAL CODE OF ZOOLOGICAL NOMENCLATURE, 1904.

The International Codes of Zoological Nomenclature of Paris, 1889; Moscow, 1892; Cambridge, 1898; Berlin, 1901, and Berne, 1904, all treat of types. It will suffice to quote the 1905 (Berne, 1904) edition:

Art. 29. If a genus is divided into two or more restricted genera, its valid name must be retained for one of the restricted genera. If a type was originally established for said genus, the generic name is retained for the restricted genus containing said type.

Art. 30. If the original type of a genus was not indicated, the author who first subdivides the genus may apply the name of the original genus to such restricted genus or subgenus as may be judged advisable, and such assignment is not subject to subsequent change. In no case, however, can the name of the original genus be transferred to a group containing none of the species originally included in the genus; nor can a species be selected as type which was not originally included in the genus, or which the author of the generic name doubtfully referred to it.

**Recommendation.**—In selecting a type, authors should govern themselves by the following:

a. A genus which contains a species bearing the same name, either as a valid name or as a synonym, takes that species as type.
b. Select as type some species which the original author studied personally, unless it can be definitely shown that he had some other species more particularly in mind.

c. If the original genus has already been divided without designation of type, the type should be restricted by elimination, namely, by successively rejecting all the species which have already been transferred to other genera; the type is then selected from the species which remain.

If the genus contains both exotic and nonexotic species, from the standpoint of the original author, the type is to be selected from the nonexotic species.

d. Select as type the species which is best described, or best figured, or best known.

**AXIOMS RELATIVE TO TYPE SPECIES.**

In determining the type species of a genus, it is self-evident that such determination should be made in accordance with the original intentions of the original author of the genus, provided his intentions can be definitely recognized.

Not only is this proposition in harmony with the spirit of the law of priority, but it has its very practical application, namely, the more closely it is possible to restrict the determination of a type species to the original paper in which the genus was published, the less literature one has to consider and the fewer will be the divergent views which must be discussed. A blind adoption of the rule of "page precedence" (see pp. 62–63) would permit a determination of all types upon basis of the first generic publication, and, radical as the rule is, it must be admitted, even by those of us who do not believe in it, that it has much in its favor and that it is possibly still an open question as to whether it leads to greater inconvenience or even to greater absurdities than do certain other rules.

As a second axiom it may be stated that, according to the spirit of the law of priority, the historical method should be adhered to in case the type can not be determined upon basis of the first publication. Thus, if any author has determined a type for a genus without previously determined type, such determination holds unless it can be shown that it is objectively erroneous.

**RULES AND RECOMMENDATIONS CONCERNING TYPES.**

In the following discussion, the rules and recommendations formulated for determining types of genera are based upon the practices now in existence and upon our own experience. It is not maintained that the points discussed cover all cases or that all points exclude a difference of opinion. It is, however, believed that the suggestions made are more in detail than are those usually found in existing codes, and it is hoped that they will be of use either in stimulating further study on the subject, or in serving as a guide to those systematists who have heretofore paid little or no attention to the subject discussed.
A. Genera for which types are designated or implied in the original publication.

Too much stress can not be laid upon selecting the type on basis of the original publication. The further one goes from this publication in selecting the type, the more complicated the case usually becomes.

1. Genera originally published with only one species. "Monotypical Genera."

RULE.—A genus proposed with a single original species takes that species as type.

Thus, *X-us* 1890, proposed with only one species, *albus* 1890, retains *albus* as type, regardless of the number and history of the species which may later be assigned to *X-us* and regardless of the subdivisions which *X-us* may later undergo.

This is the most simple case which can arise, and the principle involved is so self-evident that it needs no argument. It is fully in accord with the practices of systematists in different groups, both in zoology and botany, so far as these workers have endeavored to follow nomenclatural codes, and it is the logical ruling in accordance with the canons of all codes.

Fortunately a considerable number of genera in all major groups come under this rule. In the generic names given in the present list, about 240 are absolutely and irrevocably tied to a single original specific name by reason of their original publication with a single species.

Genera of this kind are frequently referred to as "monotypical." Such designation is not entirely free from criticism, since a genus originally published with several species, one of which was definitely designated as type, is also in a certain sense a monotypical genus.

The following monotypical genera come within the province of this paper:

List of genera (chiefly nematodes) originally published with a single species.

| Acanthocheilomema Cobbold, 1870b (dracunculoïdes) | Amblyonema Linstow, 1898 (terdentatum). |
| Acanthocheilus Molin, 1858 (quadridentatus) | Ancyracanthopsis Diesing, 1861a (bilabiata). |
| Acanthosoma Mayer, 1844 (chrysalis) | Ancyracanthus Diesing, 1838a, 1839a (pec-tinatus=pinnatifidus). |
| Acanthrus Acharius, 1780 (sipunculoïdes) | Ancyrocephalus Treptilus, 1899 (hemignathi). |
| Acrobeles Linstow, 1877 (ciliatus) | Agchylostoma Dubini, 1843a (duodenale). |
| Aegyptostoma Dubini, 1843a (duodenale) | Anguillina Hammerschmidt, 1838 (mo-nilis). |
| Agriostomum Railliet, 1902 (vryburgi) | Aphanolaimus de Man, 1880 (attentus). |
| Alloida Diesing, 1861a (typica=allo-dapa) | Aprocta Linstow, 1883 (cylindrica). |
| Alloionema Schneider, 1859 (appendicu-latum) | Arxolaimoides de Man, 1893 (microphthal-mus). |
List of genera (chiefly nematodes) originally published with a single species—Continued.

**Arlychneus** Shipley, 1896 (hemignathi).
**Ascaroides** Barthélemy, 1858a (linacii).
**Ascarophis** van Beneden, 1871a (mor-

**Ascargpis** van Beneden, 1873b (minuta).
**Asconema** Leuckart, 1886 (gibbosum).
**Aspidopephalus** Diesing, 1851a (scoleci-

**Atractis** Dujardin, 1845a (daeytuliria).
**Atractonema** Leuckart, 1887 (gibbosum).
**Autolaimus** de Man, 1880 (oxycephalns).
**Autoplectus** Balsamo-Crivelli, 1843b (pro-

**Bastania** de Man, 1876 (gracilis).
**Bathyloaimus** Cobb, 1894c (australis).
**Brachynema** Cobb, 1893a (obtusus).
**Bradydema zur Strassen, 1892 (rividum).
**Calyptronema Marion, 1870 (paradoxxum).
**Camacolaimus** de Man, 1889 (tardus).
**Carnoja Gilson, 1898 (vitiensis).
**Cephalonema** Cobb, 1893a (longicauda).
**Crenospira Schneider, 1866 (vesiculosa).
**Choetosoma Clarádèze, 1863a (ophicethe-

**Choanamoim** Cobb, 1893a (pellucidus).
**Characostomum Railliet, 1902 (longemu-

**Choanolaimus** de Man, 1880 (psammophi-

**Chordodes Creplin, 1847b (parasitus).
**Cloacina Linstow, 1898 (dahli).
**Conocephalus Diesing, 1861a (typicus).
**Cosmocephalus Molin, 1858, etc. (dies-

**Crino Lamarré, 1801 (truncatus).
**Ctenocephalus Linstow, 1904 (tiara).
**Cysthastomum E. Blanchard, 1849a (lari).
**Cysthastomum Molin, 1861 (tetracanthum).
**Cylolaimus de Man, 1889 (magnus).
**Cystidicola Fischer, 1798 (farionis).
**Cystocephalus Railliet, 1895 (mucronatus).
**Daeytulirus Curling, 1839a (aculeatus).
**Delettorephalus Diesing, 1851a (dimidia-

**Demonema Cobb, 1894c (rapax).
**Deonolaimus** de Man, 1880 (popillatus).
**Dermatozya Schneider, 1860 (veligera).
**Dermofilarias Rivolta, 1884 (irritans).
**Desmolaimus** de Man, 1880 (zeelandicus).
**Desnacoutus Clarádèze, 1863a (minutas).
**Dicylids Dujardin, 1845 (filaria).
**Dieras Rudophili, 1810a (rade).

**Diryema Koelliker, 1849 (paradoxxum).
**Dikentrocephalus Wedli, 1855 (crialis).
**Dioctophyme Collet-Meygret, 1802a (re-

**Diphtherophora de Man, 1880 (communis).
**Diplogaster Max Schultze, 1857 (micas).
**Diplolaimus Linstow, 1876 (gracilis).
**Dipodium Bosc, 1812a (apariaum).
**Discophora Villot, 1875 (crrrhatus).
**Diotrichyceros Hermann, 1891 (radue).
**Dolicholaimus de Man, 1888 (marioni).
**Dracunculus “Kniphof, 1759,” or Gal-

**Dyacanthos Stiebel, 1817 (polycephalns).
**Echinonema Linstow, 1898 (cinctus).
**Ellateepephalus Molin, 1860 (petecorminus).
**Enchelidium Ehrenberg, 1836 (marinum).
**Enoploaimus de Man, 1893 (vulgaris).
**Epithelphusa Drago, 1887 (catamensis).
**Ethanolaimus de Man, 1880 (pratenis).
**Eunamptus Dujardin, 1845a (obtusus).
**Fictiium Diesing, 1851a (cephalopodum).
**Filartina Hammerschmidt, 1838 (vitreus).
**Filaroids van Beneden, 1858a or 1861a (mustelarum).
**Filocapsulata Deslongchamps, 1842q (communis).
**Fimbria Cobb, 1894c (tennis).
**Fimbriella Cobb, 1905 (tennis).
**Furia Limneus, 1758 (infernalis).
**Globocephalus Molin, 1861 (lomumcro-

**Gnathostoma Owen, 1836 (spinigerum).
**Graphonema Cobb, 1898d (vulgaris).
**Gyalcephalus Looss, 1900 (capitatns).
**Habronema Diesing, 1861c (muscet).
**Hemonechus Cobb, 1898a (contortus).
**Herruca Gmelin, 1790 (muris).
**Halalaimus de Man, 1880 (gracilis).
**Halichoanolaimus de Man, 1886 (robustus).
**Hamularia Treutler, 1793 (lymphatica).
**Hedruris Nitzsch, 1821 (androphora).
**Heligmos Dujardin, 1845 (longicirrhus).
**Hemipylus Quatrefages, 1846 (species un-

**Heremonchus Cobb, 1898d (vulgaris).
**Heterochelus Diesing, 1839 (tunica).
**Heth Cobb, 1898a (juli).
**Histiostrongylus Molin, 1861 (coronatus).
**Hoplocephalus Linstow, 1898 (cinctus).
**Hydromermis Corti, 1902 (rieicola).
**Hystrichia Dujardin, 1845a (tricolor).
List of genera (chiefly nematodes) originally published with a single species—Continued.

Hystrignathus Leidy, 1850 (rigidus).
Ironus Bastian, 1865 (ignarus).
Isakis Lespès, 1856 (migrans).
Koeplis Lockwood, 1872 (anguilla).
Labiduris Schneider, 1896 (gulosa).
Lasionotus Marion, 1870 (excilis).
Lecanocephalus Diesing, 1839 (spinulosus).
Leirius Leuckart, 1850 (leptocephalus).
Lepidomene Cobb, 1898a (bifurcata).
Leptodera Diesing, 1845a (flexilis).
Leptoderus Dujardin, 1845a (flexilis).
Leptolaimus de Man, 1876 (papilliger).
Lepturus Schlotheaner, 1860 (curvula).
Liniscus Dujardin, 1845a (exilis).
Lissonomia Linstow, 1903 (rotunda).natum).
Litosoma van Beneden, 1873 (filaria).
Lobocephalus Diesing, 1838 (heterolobus).
Lombrioides Mérat, 1821 (vulgaris).
Macrolepidota Manpas, 1900 (cruceis).
Macroposthonia de Man, 1880 (anulata).nula).
Mastigodes Zeder, 1800 (hominis = trich-ura).
Melodogynæ Gældi, "1887" or 1889
Mermis Dujardin, 1842 (nigrescens).
Microlaimus de Man, 1880 (globiceps).
Mitrephorus Linstow, 1877 (hirsosphericus).
Mitrephorus Linstow, 1877 (hirsosphericus).
Myenchus Schuberg & Schroeder, 1904
Myzomma Stiles, 1892 (scutatus).
Necator Stiles, 1903 (americana).
Nectonema Marion, 1870 (prinzi).
Nectonema Verrill, 1879 (agilis).
Nema Leidy, 1856 (racilans).
Neonermis Linstow, 1904 (macrolaimus).
Neonchus Cobb, 1893 (longicuda).
Nervus Laporte, 1792 (medinensis).
Netarophynchus Zenker, 1827 (blainvillii).
Odontolobus Roussel, 1834 (ceci).
Odontolaimus de Man, 1880 (chlorurus).
Odontophora Buetschli, 1874 (marina).
OEsophagodontus Railliet & Henry, 1902
Ollulanus Leuckart, 1865 (tricuspid).
Onchoceerca Diesing, 1841 (reticulata).
Oncholaimellus de Man, 1890 (caltradosicus).
Onchophora Diesing, 1851a (neglecta).
Onyx Cobb, 1891 (perfectus).
Oxyema Linstow, 1899 (rectum).
Oxystrongylus Buetschli, 1874 ( elongata).
Oxyurus Rudolphi, 1803 (curvula - equi).
Ozolimnus Dujardin, 1845a (megatyphlon).
Paragordius Montgomery, 1898 (varius).
Passalurus Dujardin, 1845a (ambiguus).
Pelagonema Cobb, 1894 (simplex).
Pelodytes Schneider, 1860 (strongyloides).
Peritrichelius Diesing, 1851a (signis).
Philipbrus Hemrich & Ehrenberg, 1828
Pharus Leuckart, 1848 (alatus).
Pharyngodon Diesing, 1861a (acanthurus).
Physocelalus Diesing, 1861 (sexalata).
Piguris Schlotheaner, 1860 (reticulata).
Platycoma Cobb, 1894 (cephalata).
Polydolius Dujardin, 1845a (anoura).
Potamonema Leidy, 1856 (nigrovenosa).
Prosdomera Rudolphi, 1810 (asenoides).
Prothelmins Linstow, 1888 (profundissima).
Pseudolius Dujardin, 1845a (filiarum).
Pseudonymus Diesing, 1857 (spirothea).
Pseudorhabditis Perroncito, 1881 (stercoro-
us).
Pterocelalus Linstow, 1899 (viriparvs).
Pterygoceratites Wedl, 1861 (plagios-
tona).
Ptychocepalus Diesing, 1861 (spirothea).
Ramphogordius Rathke, 1843 (lacteus).
Rhabdogaster Metschnikoff, 1867
Rhabdonema Leuckart, 1883 (nigrovenosa).
Rhabdotoderma Marion, 1870 (morsutti).
Rhigonema Cobb, 1898 (brevicollis).
Rhytis Mayer, 1835 (paradoxa).
Rictularia Frellich, 1802a (crisata).
Sabatieria de Rouville, 1903 (cettensis).
Schizocheilonema Diesing, 1861 (megalo-
chilanum).
Scoleotrichum Rudolphi, 1819 (echinatus).
Simonsia Cobbold, 1864 (paradoxa).
Siphonolaimus de Man, 1895 (niger).
Solenaolaimus Cobb, 1894 (obstusus).
Spheronolaimus Bastian, 1865 (hirsutus).
Sphericulatula Dufour, 1837a (bombi).
Spinifer Linstow, 1901 (filiforme).
Spininctus Fourment, 1884 (ovifagellis).
Spioroptera van Beneden, "1858a," 1861a
(coronata).
Spirocoela Schneider, 1866 (contortata).
Stelmius Dujardin, 1845a (precinctus).
Stenodes Dujardin, 1845a (acus).
Stenurus Dujardin, 1845a (inflexus).
List of genera (chiefly nematodes) originally published with a single species—Continued.

Stephanurus Diesing, 1839a (dentatus).
Stomachida Pereboom, 1750 (vermis).
Streptogaster Cobb, 1886 (papillatus).
Streptostoma Leidy, 1849 (agile).
Strongylacantha van Beneden, 1873 (glycirrhiza).
Strongyloides Grassi, 1879 (intestinalis=stercoralis).
Strongylus Mueller, ‘1780,’ 1784 (equinus).
Subulura Molin, 1860 (acutissima).
Synagamus Siebold, 1836 (trachealis).
Synoenema Magalhaes, 1905 (fragile).
Synplecta Leidy, 1851 (pendula).
Syngamus de Man, 1888 (striatocaudatus).
Tachygonetria Wedl, 1862 (eivipara).
Tanqua R. Blanchard, 1904 (tiara).
Teratocephalus de Man, 1876 (terrestris).
Tereschellingia de Man, 1888 (communis).
Tetrachelonema Diesing, 1864a (quadritubiam).
Tetradenus Linstow, 1904 (tiara).
Tetrameres Creplin, 1846 (paradoxus).
Thalassirostrus de Man, 1889 (britannicus).
Thalassosaolaimus de Man, 1893 (tardus).
Thelamon de Wedl, 1862 (alatus).
Thelastoma Leidy, 1849 (alternatum).
Thelazia Bosc, 1819 (rhodesii).
Trefusia de Man, 1893 (longicauda).
Trichelionema Diesing, 1861a (megalochoila).
Trichina Owen, 1835 (spiralis).
Trichinella Railliet, 1895 (spiralis).
Trichoderma Greef, 1869 (oxycauda).
Trichodes Linstow, 1874 (crassicauda).
Trichonema Cobbold, 1874 (arcuata).
Trichuris Roederer & Wagler, 1761, 1762 (trichaiura).
Tricoma Cobb, 1894 (cineta).
Tropiocoloeera Diesing, 1851a (paradoxa).
Tropisirus Diesing, 1835 (paradoxus).
Tyloaimophorus de Man, 1880 (typicus).
Tylopharynx de Man, 1876 (striata).
Uracanthus Diesing, 1861 (brevispinosus).
Urolabe Carter, 1858 (palustris).
Vena Gallandat, 1773a (medinensis).
Xyo Cobb, 1898 (histrice).

Despite the self-evident character of the principle involved, a few genera of this category have later come to be used in a sense entirely different from that in which they were originally intended, as indicated by reference to the type. The explanation of this is clear. Authors have placed additional species in a given genus of this kind; then the species have later been distributed in two or more genera, and the original species has been transferred to some other than the original generic name. As an example of this kind among the nematodes, Strongylus may be mentioned. It is clear that this species was originally (Mueller, 1780, pl. 42, figs. 1–12) based upon Strongylus equinus. It is true that in his text Mueller later (1784, 8) says “Congenerem valde similem claris. Otto Fabricius in intestinis oium nuper reperit,” but the species (S. ovinus) in question can not come into consideration as type of Strongylus, for not only does S. ovinus not appear to have been described or figured in 1780, but it is clear that Mueller based his genus upon S. equinus. Other species were afterwards added to Strongylus, and Rudolphi (1809a, 35), in suggesting a division of Strongylus, placed both S. equinus and S. ovinus in the Sclerostoma group, thus indicating a transfer of Strongylus s. st. to the newer forms, for which, by the way, another generic name (Uncinaria) was at that time known to Rudolphi to be available. De Blainville (1828a) carried out Rudolfi’s suggestion, definitely separating the two genera, and the generic name Strongylus is now generally used for a group of
worns—namely, for the *Strongylus contortus* group (see *Hæmonchus*)—which is allied to but quite different from the original type.

In cases of this kind the policy to be followed seems not to admit of any hesitation. One should immediately revert to the original type, returning *S. equinus* to the genus *Strongylus*.

Such action will probably not meet with the approval of those who oppose the Law of Priority, but consistency certainly demands a uniform application of the principle involved.

2. Genera Originally Published with Only One Valid Species, but also with One or More Species inquirenda.

In several cases authors have published a genus with only one species which they recognized as valid, but they have added to the genus one or more species which they looked upon as *species inquirenda*. Two views might be advanced regarding such cases:

*First*, it might be maintained that since the author was in doubt regarding the validity of certain species, but not regarding one species, he must have had the one valid species especially in mind in proposing the genus, while the insertion of the doubtful species was an afterthought. Such an interpretation would very probably cover the majority of cases, but circumstances can be imagined which would call for a modification of this view. Thus, an author might notice some variation in certain specimens which might lead him to the view that these possibly represented a species distinct from the one he recognized as valid. This second species might, however, contain all the characters he considered as generic and as found in the valid species. In this case the doubtful species might be, in his eyes, just as important, viewed from the generic standpoint, as the valid species. Cases of this kind, however, would probably represent exceptions.

*Second*, it might be maintained by authors who attach very great importance to "elimination" that if any author selected the valid species (from standpoint of the original author of the genus) as type of a new genus, or transferred it to another genus, the type of the old genus would have to be selected from the species inquirenda.

Personally we prefer the first interpretation, and would suggest the general adoption of the following:

**RULE.**—The type of a genus (containing from the standpoint of its author both valid and doubtful species) must never be selected from any species which the original author of genus clearly designated as *species inquirenda* at the time of the publication of the genus.

**Nematode Genera of this Class.**

The following genera in this paper come under the class now under discussion:

*Cosmocerca* Diesing, 1861a, 645; type by present designation, *ornata*.
*ornata* considered valid by Diesing, 1861a, 645.
*commutata* given as species inquirenda by Diesing, 1861a, 645.
Echinocephalus Molin, 1858, 154; type by present designation, uncinatus.  
uncinatus considered valid by Molin, 1858, 154.
cygni given as species inquirenda by Molin, 1858, 154.

Proleptus Dujardin, 1845a, 105; type by present designation, acutus.  
acutus Dujardin, 1845a, 105; only positive species.
obtusus Dujardin, 1845a, 105; given by Dujardin as doubtful.
Thominx Dujardin, 1845a, 22-23; type by present designation, manica.  
manica Dujardin, 1845a, 22-23; only positive species.
tridens Dujardin, 1845a, 22-23; given as doubtful.

Cases of this kind should not be confused with cases like Strongylus, where the genus was distinctly based upon one species, described, discussed, and in some cases figured, but where the author incidentally mentioned that some one found another (unnamed, undescribed, and unfigured) congeneric species.

In addition to the ruling on the four genera given above, it may be mentioned that in all four cases, page precedence, if adopted, would call for the same four species, respectively, as type; further, Cosmocerca is a doubtful homonym; uncinatus could also be construed as type by virtual tautonymy. It is possible that Thominx should be considered as a case under the rule of doubtfully referred species (tridens) instead of species inquirenda.

3. Genera Originally Published with a Species Definitely Designated as Type (Type by Original Designation).

RULE.—When in the original publication of a genus one of the species is definitely designated as type, this species should be accepted as type, regardless of any other considerations.

Thus, genus X-us, 1890, originally published with the following species:

albus, 1890, specifically designated as type.
niger, 1885, type of genus Y-us, 1885.
flavidus, 1890, type of Z-us, 1900.
minutus, 1880, not known to be a type.
radiatus, 1875, doubtful species.

If an author definitely designates a given species as type, he selects a form which expresses his standard of reference for the genus. If any other species is subsequently selected as standard of reference, such selection is theoretically equivalent to the proposition of a new genus, which may or may not be considered identical with the original genus. Practically, the second selection is therefore, in many cases, at least, the proposition of a stillborn homonym; in other cases it involves an erroneous quotation of the original author’s intentions. It is clear, therefore, that the acceptance of the originally designated type is in accordance with the law of priority.

Unfortunately, comparatively few of the earlier authors foresaw the necessity of definitely designating types, and to this lack of fore-
sight we may ascribe much of the confusion in nomenclature which has arisen. Helminthologists in general laid little stress upon type species prior to the publication (1898) of the "Inventory of the genera of the trematode family Fasciolidae." Blanchard in particular should be mentioned as preeminent among helminthologists to insist upon the importance of type species (see particularly his writings on nomenclature), while even such eminent men as Rudolphi, Dujardin, Diesing, Molin, Leuckart, and others paid little or no attention to this important part of the generic diagnosis.

**Roundworm genera with types by original designation.**

Exclusive of those cases where an author has intentionally renamed a monotypical genus (to which other species may later have been added), and exclusive of the cases where the specific name *typicus* or *typus* has been used, there are only about ten instances in roundworm genera in which the author of a genus (originally containing several species) has definitely determined a type by original designation, namely:

- *Anoplostoma Buetschli*, 1874b (*viviparum*).
- *Bunostomum Railliet*, 1902 (*trigonocephalum*).
- *Desmodora de Man*, 1889 (*communis*).
- *Euchromadora de Man*, 1886 (*vulgaris*).
- *Gongylonema Molin*, 1857 (*minimum*).

- *Heterakis Dujardin*, 1845a (*vesicularis*).
- *Leptosomaturn Bastian*, 1865 (*elongatum*).
- *Monoposthia de Man*, 1889 (*costata*).
- *Neochromeirhynchus Hamann*, 1905 (*claviceps*).
- *Stenolaimus Marion*, 1870 (*lepturus*).

In connection with the genera whose types were determined by original designation, it may be well to note the following hypothetical case as example of instances which are not uncommon:

*X-us*, 1890, with the species *albus*, 1890, type by original designation.

Let us assume that Dr. A, in 1895, suppresses *X-us* as a synonym of *Y-us*, 1885, type *niger*. If later Dr. B, in 1900, separates *X albus* generically from *Y niger*, reinstating the genus *X-us*, *albus* must of course remain the type of *X-us*. This ruling is in accord with various codes, and appears to have been first formulated in the B. A. Code (see above, p. 14).

Other cases, slightly more complicated, will be referred to under another section.

4. **Type by Original Implication Through Use of the Specific Name *typicus* or *typus***.

**Rule.—**If in the original publication of a genus, *typicus* or *typus* is used as a new specific name for one of the species, such use shall be construed as "type by original designation."

The canon here formulated agrees, so far as we have been able to discover, with the customs adopted by systematists both in zoology and botany. Its adoption will probably meet with general approval.
The following cases of this kind occur among nematode genera:

**Nematode Genera with Type Determined by Use of Specific Name typicus.**

*Allodapa* Diesing, 1861 (*typica=allodapa*); also monotypical; also type by absolute tautonymy.

*Conocephalus* Diesing, 1861 (*typicus*); also monotypical.

*Dipeltis* Cobb, 1891 (*typicus*); also type by original intention of the author (personal letter).

*Tylolaimophorus* de Man, 1880; also monotypical.

Incidentally it may be noticed that *Allodapa*, *Conocephalus*, and *Tylolaimophorus* are monotypical, hence no other species could be taken as types of these genera; further, *typica=allodapa* would be type by absolute tautonymy.

*Dipeltis* represents an interesting case; it contained

*minor*, new species, which would be type if "page precedence" were adopted blindly;

*cirratus* which is type of *Discophora*, 1875 (monotypical, and homonym [1886]); and

*typicus* construed as type by original designation. In this case, accordingly, the *last* not the *first* species is type.

There is a further justification (if such were considered necessary) for selecting *typicus* as type of *Dipeltis*. Suppose *cirratus* were taken as type by inclusion; we should then have a species of *Dipeltis* (which should be used instead of *Discophora*, 1875, preoccupied in 1836) with the name *typicus* yet not type of the genus, and this might lead to later confusion. The same would apply if *minor* were selected on the basis of page precedence.

It can not be said that this method of indicating a type (by naming a species *typicus*) is free from criticism, since it is likely to give rise to confusion in future changes of classification. Thus, *Conocephalus typicus*, 1861, has been placed in the genus *Ascaris* and is now *Ascaris typica*, yet it is not the type of the genus *Ascaris*, 1758.

Although, according to the Law of Priority, the name *typicus* must hold (other things being equal) for the many species for which it has been proposed, it will be well to avoid its use for new species in the future. Hence the

**Recommendation**.—It is well to avoid the introduction of the names *typicus* or *typus* as new names for species or subspecies, since such names are always liable to result in later confusion.

For the specific names *communis, medicinalis, officinalis*, and *vulgaris*, see p. 64.

5. Type by Absolute Tautonymy.

**Rule**.—If a genus, without designated type, contains among its original species one possessing the generic name as its specific or subspecific name, either as valid name or synonym, that species or subspecies becomes ipso facto type of the genus.

Thus, let the genus *X-us*, 1890, without designated type, contain the species *albus, niger*, and *x-us*. The species *x-us* becomes type of *X-us* by absolute tautonymy.
There seem to be few principles in nomenclature which are inherently more sensible than this one. Further, this canon corresponds with the historic development of not an inconsiderable number of generic names. Many groups originally recognized as of specific value by earlier authors have been elevated to generic rank and the original specific name has been taken as the generic name. *Mephitis mephitis, Putorius putorius*, and *Trutta trutta*, represent familiar examples. Among the trematodes, *Heterophyes heterophyes*, is known. In these combinations, the words *putorius, trutta*, and *heterophyes*, in addition to being specific names, practically mean *Putorius par excellence, Trutta par excellence, Heterophyes par excellence*, which expressions carry with them the idea of "type species."

As other cases of this kind may be mentioned: *Anhinga anhinga, Bison bison, Buteo buteo, Cardinalis cardinalis, Coturnix coturnix, Crex crex, Glis glis, Gulo gulo, Ictistrionicus histrionicus, Lutra lutra, Meles meles*, etc.

Many earlier authors were opposed to tautonymic names, and on this account a new specific name was introduced when an old specific name was raised to generic rank. Thus, Cobbold was evidently influenced by this opposition, enunciated in the Stricklandian Code, when he changed the name *Distoma heterophyes* to *Heterophyes ægyptiaca*. Diesing, wishing to recognize a distinct genus for *Oxyurus alodapa*, was evidently influenced by the same view when he named the genus *Alloodapa*, adopting *typica* as specific name.

While Cobbold was opposed to tautonomy, he did not follow the rule of the Stricklandian Code as to the manner in which tautonomy should be avoided.

In later years, tautonomy is admitted as permissible, and some authors, in fact, deliberately proposed tautonymic combinations. It certainly has its advantages. Personally we strongly favor the intentional formation of tautonyms, as such combinations aid in recalling the type species.

It seems that the principle of type by tautonomy must have been in the minds of the framers of the B. A. Code when they wrote: "A specific name, or its synonyms, will also often serve to point out the particular species which by implication must be regarded as the original type of the genus." It was definitely formulated in the German and English recommendations of the Committee's report on the International Code (see above, pp. 15, 23). It has also been formally adopted by a number of prominent systematists (see Science, N. Y., n. s., v. 16, 114–115, July 18, 1902), particularly in vertebrate zoology. We unreservedly declare in favor of its consistent adoption.
The following cases, mentioned in this paper, may be taken as examples of "type by absolute tautonymy:"

* Allodapa Diesing, 1861 (typica Diesing, 1861 = allodapa Creplin, 1853, renamed); also monotypical; also type by use of name typicus.

* Angiostoma Dujardin, 1845a (limacis, 1845 = angiostoma, 1866); also type by designation of Schneider, 1866, 148.

* Anguillula Mueller, 1786 (glutinis, 1783 = anguillula, 1773, renamed = redivivum, 1758, renamed); Bastian, 1865c, 110, has designated A. aceti as type of Anguillula; see special discussion below, p. 34.

* Anthuris Rudolphi, 1819 (anthuris); see special discussion, p. 48.

* Capsularia Zeder, 1800 (salaris, 1790, renamed capsularia, 1802; halecis, 1790, renamed capsularia, 1802; page precedence calls for salaris = capsularia).

* Chaos Linneus, 1767 (chaos, 1758 = protheus, 1767).

* Cystidicola Fischer, 1798 (farionis, 1798 = cystidicola, 1801); also monotypical.

Of the special nematode cases cited above, no author can possibly object to the ruling on Allodapa and Cystidicola, since allodapa is type also because of use of the word typica and since Allodapa and Cystidicola are monotypical.

Doubts may, however, arise in the minds of some authors as to Angiostoma, Anguillula, Capsularia, and Chaos; hence a discussion of these cases seems advisable.

**Case of Angiostoma Dujardin, 1845.**

*Angiostoma* was proposed with two species, entomelas and limacis. Schneider (1866, 157) referred limacis to Leptodera as *L. angiostoma*, thus giving an implied case of absolute tautonymy, on basis of which we should rule that limacis is type of *Angiostoma*. Schneider (1866, 148) also appears to have designated limacis as type of *Angiostoma*, for he says: "* * * zwei von Dujardin zuerst beschriebene Species, deren jede bei ihm zugleich eine Gattung vertritt, * * * Leptodera flexilis und Angiostoma limacis * * *.*” Accordingly, limacis would seem to be type by Schneider's designation as well as by absolute tautonymy.

**Case of Anguillula Mueller, 1786.**

The case of *Anguillula* is somewhat complicated. The name *Vibrio anguillula* was proposed by Mueller, 1773, to contain certain worms found "in glutine farinoso et alibi vulgarissimum." Later *anguillula* was divided, was discarded as a specific name, and reintroduced as a generic name; *anguillula* thus being raised to generic rank, *Anguillula*, the species *anguillula* becomes type by absolute tautonymy of the generic name *Anguillula*. The history of the species *anguillula* is, therefore, the important factor in determining the present (restricted) form which should serve as type.
Mueller, 1773, included *Chaos redivivum* Linnaeus, 1767, 1326 (which was proposed for certain worms “in aceto et glutine bibliopegorum”), in the synonymy of *Vibrio anguillula*; hence *anguillula*, 1773, equals *redivivum*, 1767, renamed, and was therefore not justified; accordingly the form to which *anguillula*, 1773, becomes confined should take *redivivum* as its specific name, and *anguillula* should fall into synonymy.

In 1774, Goeze advanced the view that the vinegar eel (*aceti*, 1783) was distinct from the Kleister eel (*glutinis*, 1783), but he does not appear to have named the species. Mueller (1776, 281) indicated concurrence in Goeze’s view, and later (1783, 161–163) recognized four species, namely:

*Vibrio fluviatis* (the “Anguille vulgaire” of Rozier, 1775);
*V. aceti* (the “anguille du vinaigre” = vinegar eel);
*V. glutinis* (the “Kleisterelchen,” to which Mueller now confined *Chaos redivivum* Linnaeus, 1767 = *Vibrio anguillula* Mueller, 1773 [see above]); and
*V. marinus*.

From the facts as thus far given it is clear that *glutinis*, 1783, is the lineal descendant of *anguillula*, 1773, seu *redivivum*, 1767.

The next work of importance is Mueller, 1786, 63 (Animalcula Infusoria), which is not accessible to us. According to Gmelin (1790a, 3900–3901) and Sherborn (1902, 1077), *Anguillula* was proposed by Mueller, 1786, 63, with four species, namely:

*Anguillula* “O. F. Mueller, 1786, 63.”

*aceti* (Mueller, 1783) Mueller, 1786, 63 [(= *Chaos redivivum* Linnaeus, 1767, 1326, in part) (= *Vibrio anguillula* Mueller, 1773, 41, in part) = *Vibrio aceti* Mueller, 1783; to *Gordius* by Oken, 1815, 191; to *Rhabditis* by Dujardin, 1845; to *Anguillula* by Diesing, 1851; type of *Anguillula* by Bastian, 1865c, 110].


*glutinis* (Mueller, 1783) Mueller, 1786, 64 [= *Vibrio anguillula* Mueller, 1773, 41, renamed = *Chaos redivivum* Linnaeus, 1767, renamed (the latter definitely confined to *glutinis* by Mueller, 1783, 162) = *Vibrio glutinis* Mueller, 1783, 162; to *Gordius* by Oken, 1815, 191; to *Rhabditis* by Dujardin, 1845].

*marina* (Mueller, 1783) Mueller, 1786, 163 [= *Vibrio marinus* Mueller, 1783, 163; as type of *Enchelidium* by Ehrenberg, 1836. See also under *Enchelidium* and *Pontonema* in Bastian, 1865c, 140, 174].

In *Anguillula* Mueller, 1786, there is a species *glutinis*, 1783, with *anguillula*, 1773, as synonym, hence (see above) *anguillula*, 1773, is type by tautonymy of *Anguillula*, 1786; but as *anguillula*, 1773, equals *redivivum*, 1767, renamed, this latter name, in its emended sense—namely, as equal to *glutinis*, 1783—should stand as type species of *Anguillula*, 1786. The correct name for the “Kleisterelchen” is thus seen to be *Anguillula rediviva* (Linnaeus, 1767) Stiles & Hassall, 1905.
Later authors have overlooked the fact that Mueller's own writings definitely fixed the type of *Anguillula*, as will be seen from the following complications which have arisen:

Oken (1815) transferred *aceti* and *glutinis* to *Gordius*, leaving *fluviatilis* and *marina* as the remaining original species of *Anguillula*, and since *marina* is type of *Enchelidium*, 1836, *fluviatilis*, 1786 (equals *fluvalis*, 1783), ought to have been taken as type (by elimination) of *Anguillula* by any author who overlooked the facts given above relative to *glutinis*.

In 1828, Hemprich & Ehrenberg proposed *Anguillula* as a new genus, to contain the following species:

*Anguillula* Hemprich & Ehrenberg, 1828, Phytozaa entozoa, not paged, as new genus, containing 5 species:

  - Includes *Vibrio fluviatilis* Mueller, 1783.
- *inflata* Hemprich & Ehrenberg, 1828, pl. 1, fig. 12. Includes *Vibrio niloticus*.
  - Includes *Vibrio coleher* Mueller.
- *dongalanus* Hemprich & Ehrenberg, 1828, pl. 1, fig. 13.

Later, in discussing *Vibrio*, Ehrenberg (1838a, 82–83) gave the following species of *Vibrio* as members of the genus *Anguillula*:

*Anguillula aceti*, including *Vibrio aceti*.

*A. glutinis*, including *Vibrio glutinis*; *V. ministerialis* given as possible synonym.

*A. fluviatilis*, including *Vibrio anguillula*, *V. fluviatilis*, and *V. lacustris*.

*Vibrio agrostris* Steinbuch.

*V. dongalanus*.

*V. tritici* Steinbuch.

Dujardin (1845a, 239) pointed out that *Anguillula* Hemprich & Ehrenberg, 1828a, differed in material characters from *aceti* and *glutinis*. He preserved *Enchelidium* Ehrenberg, 1836, for *Anguillula marina*; he also retained *Anguillula* for the five species mentioned by Hemprich & Ehrenberg, 1828a; and he proposed *Rhabditis* to contain *R. terricola* (designated type by Bastian), *R. aceti* (*Vibrio aceti*), *R. tritici*, all of which he examined, and *R. glutinis* (*Vibrio glutinis* equals *Anguillula rediniva* [type of *Anguillula*, 1786]), which he does not state that he had examined, and which he was not aware was a type.

Thus, from our point of view, Dujardin used *Anguillula* in an incorrect sense, namely, not in accordance with Mueller's writings. Further, his *Rhabditis*, 1845, contained the type (*glutinis*) of an earlier genus, and under ordinary circumstances this would be "type by inclusion" for *Rhabditis*; but under the circumstances it is perhaps best to accept Bastian's interpretation that *terricola* is type of *Rhabditis*. (See p. 45.)
Diesing (1851a) returned aceti, glutinis, and tritici [as graminearum] to Anguillula, while he placed terricola in Angiostomum, thus eliminating all of the species from Rhabditis which Dujardin had placed in this genus.

Bastian (1865c, 110) definitely designated aceti as type of Anguillula “since this appears to have been so regarded by Ehrenberg.” Bastian’s reasoning in this case meets with the serious objection, however, that aceti was not one of the original species of Anguillula new genus Hemprich & Ehrenberg, 1828; hence, that it could not under any circumstances be type of “Anguillula Ehrenberg.” Bastian further includes in “Anguillula Ehrenberg” A. glutinis (which he was unable to examine); also A. fluviatilis, which he looks upon as an “altogether doubtful animal,” which “may perhaps belong to the genus Plectus;” and several other species.

According to Minot, “the true name of the vinegar eel is Leptodera ocyphila, but most authors still call them Anguillula aceti. * * * The same worm apparently appears in fermenting starch paste, although the starch worm has received a different specific name, L. glutinis.”

Authors differ in opinion regarding the identity of aceti and glutinis. If they are specifically identical, then our interpretation of glutinis as type of Anguillula, 1786, amounts to practically the same (from a systematic point of view) as Bastian’s interpretation that aceti is type of “Anguillula Ehrenberg,” although he and we have argued upon different premises; if aceti and glutinis are not specifically identical, but are so closely allied that authors are in doubt as to their exact status, then they will probably be at least congeneric, and our interpretation that glutinis is type of Anguillula, 1786, will not materially alter the present classification so far as these two species are concerned.

case of Capsularia zeder, 1800.

Capsularia is a much less complicated case. It was proposed with two species—salaris and halecis. In 1802, Rudolphi renamed both of these species capsularia, placing the first in Ascaris, the second in Filaria. The choice is therefore open to select either as type of Capsularia, and on basis of page precedence, salaris may be taken as type. This also agrees with elimination, as halecis was afterward (1824) placed (in part) in Filocapsularia communis.

It may be noted that in the case of Anguillula the specific name existed before the generic name was used; in fact, the species was raised to generic rank. In Capsularia and Angiostoma the generic names were later reduced to specific rank. Cystidicoloides also represents a case in which the generic name was later reduced to specific rank.
Volvox chaos Linnaeus (1758a, 821; 1760, 821) was based directly upon Rösel's (1755) Der kleine Proteus (Insecten-Belustigung, Nürnberg, v. 3, 622–624, pl. 101, figs. A–T), with the diagnosis "\*V[olvox] polymorpho-mutabilis. Habitat in aquis dulcisibus. Forma propria destitutus omnes anomalas assumens et citissimse immutans, Proteo incostantior."

In 1767, chaos was raised to generic rank, as follows:

Chaos Linnaeus, 1767, 1326, with five species:

- redieurus Linnaeus, 1767, renamed Vibrio anguillula, 1773, confined to Anguillula glutinis, 1783 = type of Anguillula, 1786.
- fungorum Linnaeus, 1767.
- ustilago Linnaeus, 1767.
- infusorium Linnaeus, 1767.

It is clear that the original specific name chaos, 1758, was raised to generic rank, Chaos, 1767, and the new Linnean specific name proteus, 1767 (= proteus Pallas, 1766), introduced. Here we have a clear case of type by absolute tautonomy, the correct name being Chaos chaos [1].

Amiba Bory, 1822a (later changed to Amoeba Ehrenberg, 1830a, and still later changed to Ameba), was proposed with the same species (= Chaos chaos) as type: "Le type du genre est le Protée de Mueller, que ce savant forma d'un animalcule découvert par Rösel."

In a recent discussion on nomenclature one author has referred to the possibility of reviving the generic name Chaos, and from the context of his article it would appear that he would not approve of such a course upon the premises then known to him. The premises as given in the foregoing, however, were probably unknown to him.

This generic name is here unhesitatingly revived, both as generic and specific. It has as clear a standing in nomenclature as has any name ever used by Linnaeus; it was based upon the same species as Amiba, Amoeba, or Ameba, and no one who does not object to Amiba, Ameba, or Ameba can logically object to Chaos as generic name; no one who does not object to proteus or proteus can logically object to chaos as specific name.

A storm of objection because of this action can easily be foreseen, but there need be no fear for the ultimate adoption of Chaos chaos. This case will afford excellent material for sarcastic criticism on the part of authors who disapprove of consistency in nomenclatural matters.

If any author objects on principle to type by absolute tautonomy, he might interpret Chaos in either of two other ways:
First, he might rule by page precedence that *redivivum* is the type. In this instance he would have to take *Chaos*, 1767, into consideration as competitive with *Anguillula*, 1786; or

Second, he might rule by elimination that since *redivivum* has been transferred to *Anguillula* and since *protheus = chaos* is type of *Amiba*, the type of *Chaos* should be selected from *fungorum*, *ustilago*, and *infusorium*. See, however, the Linnaean rule, p. 64.

6. Type by Virtual Tautonomy.

RECOMMENDATION.—If a genus, without designated type, contains among its original species one possessing as specific or subspecific name, either as valid name or synonym, a name which is virtually the same as the generic name, or of the same origin or same meaning, preference should be shown to that species in designating the type, unless such preference is strongly contraindicated by other factors.

Under type by absolute tautonomy are here classified such cases in which the generic and specific names are *literatim* identical. Under type by virtual tautonomy are here included those cases in which the specific name is taken as basis for the generic name, or vice versa.

It must be admitted that the latter cases are not always entirely free from individual interpretation, but the following cases mentioned in this paper seem to admit of no doubt:

*Capillaria* Zeder, 1800; *capillaris* Rudolphi, 1809.
*Trichuris* Rederer & Wagler, 1761; *trichiura* Linnaeus, 1771; also monotypical.
*Viscosia* de Man, 1890; *viscosus* Bastian, 1865 [de Man has written us that he based the name *Viscosia* upon the name *viscosus* and that the latter should be taken as type of the former].

Next comes a class of cases in regard to which it seems to us equally clear what should be done, but opinion will doubtless differ among various authors. Reference is made to cases in which two different words with identical or practically identical meaning are used as generic and specific names. Such cases are often the result of a dislike on the part of many authors to the use of tautonymic combinations. Two instances of this class occur in the present paper.

*Echinocephalus* Molin, 1858; *uncinatus* Molin, 1858; also type because it is the only original valid species, see p. 29.
*Heterorchilus* Diesing, 1839; *heterolobus* Diesing, 1838 = *tunicatus* Diesing, 1839; also monotypical.

As there are other grounds besides virtual tautonomy for selecting *uncinatus* and *heterolobus* as types of *Echinocephalus* and *Heterorchilus*, respectively, no author can validly object to using virtual tautonomy as additional reason for such selection.

As other instances of what are considered type by virtual tautonomy, may be mentioned: *Bos taurus*, *Sphaerostoma globiporum*, *Capra hircus*, *Equus caballus*, *Ovis aries*, *Scomber scombrus*, *Sus scrofa*, or *Sus porcus*. 
“Type by absolute tautonomy” we accept as a rigid rule; “type by virtual tautonomy” we accept at present as a recommendation, to be followed unless strongly contraindicated.

As instances in which “type by virtual tautonomy” seems to be strongly contraindicated, the following may be mentioned:

_Dipetalonema_ Diesing, 1861a. This generic name is clearly based upon the specific name _Filaria dipetala_ Molin, 1858. Of this species, however, only the male was known, and unfortunately only a single specimen.

_Dicheilonema_ Diesing, 1861a, equals subsection _Dicheilostomi_, 1851, represents another case in which type by virtual tautonomy (bilabiata) is contraindicated, because of lack of details concerning this species.

_Dacnitis_ Dujardin, 1845a, seems open to doubt. The species _esuriens_ might be interpreted as a case of virtual tautonomy, but the genus included _Pleurorhynchus_, 1786, and Dujardin knew that he was proposing a new name for a group for which he was aware that an older generic name was, from his point of view, available. Unless it is interpreted that _esuriens_ represents an indication of type (see Dujardin, 1845a, 268, 270) by virtual tautonomy, it would be our view that _sphærocephala_ is type by inclusion.

7. TYPES OF RENAMED GENERA.

RULE.—In case a generic name, without designated type, is proposed as a substitute for another generic name, with or without type, the type of either when established becomes ipso facto type of the other.

It occasionally occurs that an author uses two names for the same genus in the same paper. One of these may be used in the list of genera, the other in the list of species. In some cases it is evident that, for one cause or another, he intentionally introduced a second name; in others it is only evident that the two names are used in identically the same sense. No objection seems possible in these cases to interpreting the genera as representing identical groups, and as they are absolute synonyms, they should take the same type. As cases of this kind, mentioned in this paper, the following may be cited:

_Anthuris_ Rudolphi, 1819a, and _Spiroptera_ Rudolphi, 1819a.

_Enoplus_ Dujardin, 1845a, 230, 233, 653, and _Tricentus_ Dujardin, 1845a, 3, 653.

_Hserucula_ Pallas, 1760, 1768, and _Teniola_ Pallas, 1760, 1768.

_Laphyctes_ Dujardin, 1845a, 3, 653, and _Rictularia_ Fredlich, 1802, see Dujardin, 1845a, 280, 653.

_Leptoderes_ Dujardin, 1845a, 2, 653, and _Leptodera_ Dujardin, 1845a, 108, 653.

_Rhabditis_ Dujardin, 1845a, 239, 653, and _Tribactis_ Dujardin, 1845a, 3, 653.

_Schizocheilonema_ Diesing, 1861a, 621, 710, and _Tricheilonema_ Diesing, 1861a, 710.
In some instances an author has published a genus and has republished it under another name in the same or in a later paper, with or without additional species; for example:


The question as to whether the author placed additional species in the genus in the second paper might influence some systematists in judging the case, though it is difficult to see how this factor comes into consideration.

In still other cases it is not the original author but a later writer who has intentionally renamed the genus, as


All of the cases cited under renamed genera, together with certain other cases, may be interpreted under the head of type by inclusion.
RULE.—If an author proposes a genus, without designating a type, and includes among the original species [i.e., the valid species from his standpoint] the determined type of an earlier genus, such type becomes ipso facto the type of the new genus.

Thus, let X-us, 1890, proposed without designation of a type, include the following species:

- *albus*, 1890, new species.
- *niger*, 1885, type of Y-us, 1885; type of X-us by inclusion.

In discussing this proposition with systematists, we find a wide difference of opinion. Some workers consider it altogether too extreme; others consider it inherently just.

The general idea of type by inclusion seems to have been first suggested but not distinctly formulated in the Stricklandian Code (see above p. 14 "for if the later includes the type of the earlier genus, it would be canceled by the operation of § 4").

The cases which come under consideration in this connection naturally fall into several groups.

In regard to the cases first to be mentioned the types are or may be definitely determined by other principles as well as by inclusion:

- **Characostomum** Railliet, 1902, 109; monotypical, and *mucronatum* is in addition type by original designation; **Characostomum** = **Globocephalus** (monotypical; *mucronatum*) and **Cystocephalus** (monotypical; *mucronatum*) renamed. Thus, **Characostomum** contains the type of two earlier monotypical names, and it is itself monotypical and in addition has its type determined by original designation.

- **Cylchnostomum** Looss, 1902, 86; type tetracanthum; **Cylchnostomum** is a new name proposed for **Cysthostomum**, which is monotypical (*tetracanthus*).

- **Cystocephalus** Railliet, 1895; type longemucronatus; also monotypical and equals a monotypical genus, **Globocephalus**, renamed.

- **Echinonema** Linstow, 1898; type cinctum; monotypical and equals a monotypical genus, **Hoplocephalus**, renamed.

- **Fimbrilla** Cobb, 1905; monotypical and is proposed as new name for **Fimbria**, which is also monotypical.

- **Heterocheilus** Diesing, 1836; type tunicatus = **heterolobus**; monotypical and equals a monotypical genus, **Lobocephalus**, renamed; also type by virtual tautonymy.

- **Laphyctes** Dujardin, 1845a; type cristata; monotypical and equals a monotypical genus, **Rictularia**, renamed.

- **Lepturis** Schlothauer, 1860; type currula; monotypical; the only species is type of an earlier monotypical genus, **Oxyuris**.

- **Mastigodes** Zeder, 1800; type hominis = **trichiura**; **Mastigodes** was distinctly proposed as new name for an earlier, monotypical genus, **Trichiuris**.

- **Pelodera** Schneider, 1866; type strongyloides; **Pelodera** equals the monotypical genus **Pelodytes** Schneider, 1860 [not Fitz., ante 1846], renamed; **strongyloides** would be type by page precedence also.

- **Pseudorhabditis** Perroncito, 1881; type stercoalis; monotypical, the only species being type of an earlier monotypical genus, **Strongyloides**, 1879.

- **Psychocephalus** Diesing, 1861; type spirothecae; monotypical; also equals an earlier monotypical genus, **Pseudonemys**, 1851, renamed.

- **Tanqua** R. Blanchard, 1904; monotypical; also equals an earlier monotypical genus renamed.
Tentacularia Zeder, 1800; type subcompressa, 1803 = lymphatica, 1793, renamed; Tentacularia was given as a new name for the monotypical genus Hamularia, 1783; in 1803, Zeder added a second species; subcompressa would also be type if page precedence were followed.

Tetracere Creplin, 1846 = the monotypical genus Tropisurus Diesing, 1835, renamed. Trichinella Railliet, 1895; type spiralis; monotypical and further equals a monotypical genus Trichina, 1835 [not 1830], renamed.

Trichocephalos Goeze, 1782; type trichura; Trichocephalos is an earlier monotypical genus Trichuria, 1761, renamed; the whipworm of man would also be type by page precedence.

Trichosomoides Railliet, 1895; type crassicauda; this is a new name for the monotypical genus Trichodes, 1874 [not 1782].

Tropidocerca Diesing, 1851; type paradoxa; this is a new name for the monotypical Tropisurus, 1835 [not 1824], and Tetracere, 1846; and is itself monotypical.

Slightly more complicated cases may next be given:

Cochlus Zeder, 1803, is a new name which Zeder proposed for Goezia, 1800, because Rudolphi objected to naming worms after men. It is clear, therefore, that Cochlus, 1803, equals Goezia deliberately renamed, hence the type of Goezia should be taken as the type of Cochlus. Neither genus is monotypical, nor was a type originally designated. In 1800, Zeder mentioned two species: [Cucullanus ascoroides Goeze, 1782] examined by Zeder. Rudolphi 1801, 57, named it Goezia armata.

Goezia inermis Zeder, 1800, examined by Zeder. Rudolphi, 1801, transferred this species to Liorhynchus; Zeder, 1803, transferred it back to Cochlus.

If page precedence were followed, armata would be type of Goezia; and if elimination were followed strictly, armata would be type by elimination in 1801. Zeder, 1800a, 98, says: “Da nun der Goeze’sche Rundwurm [armata] aus dem Welse mit mehreren Eingeweidewürmern von verschiedenen Gattungen verwandt zu sehn scheint, ohne jedoch die karakteristischen Kennzeichen einer Gattung ganz zu tragen; so nahm ich um so weniger Anstand ihn in einer eigenen Gattung aufzustellen, indem mein verehrungswürdiger Lehrer Herr Prof. Schrank [1788, 98] schon lange hiezu Winke gegeben hat. Und diesen Schritt rechtfertigt gewiss eine Entdeckung, welche ich im vorigen Jahre gemacht habe.”

From this quotation it seems clear that it was armata which came into prime consideration in establishing Goezia, and since, further, such an interpretation agrees with page priority, and in 1801 with elimination, we construe armata as type of Goezia; since, now, Cochlus is simply a new generic name for Goezia we construe the same species as type of Cochlus.

Nematoxyx Schneider, 1866, contained the same two species (and no other) which were the two and only original species of the genus Cosmoerca, 1861. No valid objection can therefore arise to the ruling that Nematoxyx, 1866, is identical with Cosmoerca, 1861. In both cases, if page precedence were followed, ornata would be type. As Diesing, 1861a, gave commutata as species inquirenda, it would appear that ornata should be taken as type of Cosmoerca. Having now two
identical genera, one of which has a natural type, we see no possible objection to ruling that ornata is type of Nematoxys by inclusion. For the possibility of designating commutata as type, see under Sclerostoma, page 44.

Sclerostoma Rudolphi, 1809, was a subdivision of Strongylus, containing two species of Strongylus, namely:
equinus, which is type of the monotypical genus Strongylus, and, if page precedence were followed, type of Sclerostoma.
dentatus, which was transferred to Esophagostomum by Molin, 1861, where it has since remained and of which we have in this paper designated it as type.

According to the present status, equinus might be type of Sclerostoma either by page precedence or by elimination, and the principle of type by inclusion gives the same result.

In the case of Nematoxys, cited above, some authors might be inclined to argue that since ornata is type of Cosmocerca, commutata should be taken as type of Nematoxys. If this same argument were applied to Sclerostoma, and dentatus made its type, then the present Esophagostomum would have to be revised, since E. dentatum would be type of an earlier genus. It is thus seen that the principle of type by inclusion settles the case in a less complicated manner.

Spirura Diesing, 1861a, contains all of the original species (and no other) of Spironoura; it is distinctly a deliberate renaming of Spironoura, and the two genera being absolutely identical it can work no hardship to rule that whatever type is selected for Spironoura should also serve as type of Spirura. If page precedence were followed, gracile would be type in both cases. If Spirura is interpreted as an emendation of Spironoura, no question can arise against selecting the same species as type of both genera.

We now come to several still more complicated cases:

Cheiracanthus Diesing, 1838, 1839, contained two species:
robustus Diesing, for which Diesing gave Gnathostoma hispidum as probable synonym (Gnathostoma is monotypical).
gracilis Diesing.

In this case Diesing knew that he was renaming an earlier monotypical genus; considering robustus and hispidum as probably identical specifically, he had no grounds for considering that Cheiracanthus was not congeneric with Gnathostoma. Page precedence, if followed, would make robustus type of Cheiracanthus. To rule that robustus is type by inclusion seems more satisfactory, since it sets a stamp of disapproval upon such unjustified renaming of preexisting genera.

Dochmius Dujardin, 1845a, represents a case somewhat similar to Dispharagus. Dujardin was well aware of the existence of Uncinaria, 1789, with two species, melis and vulpis, both of which he included in Dochmius. Dujardin's proposition of a new name was therefore a deliberate renaming of an earlier genus.
It can hardly be advanced against this view that Dujardin’s Dochmius is essentially different from Uncinaria. Aside from criniformis [melis as synonym] and trigonocephalus [vulpis as synonym] of Dujardin, he included in this genus D. ursi which he gave as doubtfully distinct species, and as possibly identical with his trigonocephalus; crassus, of which he examined only the female; and tubiformis Zeder, for which he gave a description based upon his own study, but not containing any striking characters which would lead us to assume that it was because of this species that he rejected the name Uncinaria.

It was because of the inclusion of melis and vulpis in Dochmius that in 1899 (p. 164) we took vulpis as “type by inclusion” for Dochmius. For our reasons for taking vulpis as type of Uncinaria, see page 54.

Fissula Lamarck, 1801, 339, contained two species, namely, intestinalis (Bloch) and cystidicola; cystidicola (= farionis) was the type of an earlier monotypical genus.

Helicothrix Osman Galeb, 1878b, was proposed with four species: spirotella, upon which two monotypical generic names (Pseudonymus, 1857, and Ptychocephalus, 1861) had already been based; hydrophili; hydroi; and hydroissi.

Ophiostoma Rudolphi, 1801, was proposed with the species phoce, globicola, rajæ, and farionis (Cystidicola) as positive and with bifida as probable member of the genus. In the same paper, Rudolphi (p. 62) declared in favor of priority in selecting generic names, but (p. 64) objected to names like Cystidicola based upon the habitat. Ophiostoma, accordingly, appears to be a clear case of renaming the earlier genus, hence should take the same type as the older genus. Later (1809, 124) Rudolphi considers rajæ and globicola species dubie and unites (p. 119) phoce and bifida under the name dispar, retaining cystidicola as valid species. If now objection is raised to making cystidicola “type by inclusion” of Ophiostoma, the only other ruling would be to select phoce (female dispar in Rudolphi, 1809, 119). From the data stated, a ruling on the principle of type by inclusion seems to be the best method of proceeding.

Rhabditis Dujardin, 1845a, 239, was proposed with four species: terricola, aceti, tritici, and glutinis (type of Anguillula, 1786). From these species (see p. 134) it is seen that if page precedence were followed, terricola would be type of Rhabditis, and this ruling would agree with the action taken by Bastian, 1865c, who retained in Rhabditis only this one of Dujardin’s original species; it would also agree with Railliet, 1893a. Diesing, 1851a, the first reviser after Dujardin, eliminated all of Dujardin’s original species to other genera, thus totally suppressing Rhabditis. Gervais & van Beneden, 1859b, the next authors we have examined, mention by name only aceti as member of Rhabditis, transferring tritici to Anguillulina. If the principle of the “first reviser” after Diesing were followed, it would be questionable in the minds of some authors whether aceti could be designated as type
on basis of this publication, as it seems clear that the authors admitted other species to the genus. Bastian, 1865c, clearly took *terricola* as type of *Rhabditis*, as he eliminated *aceti* and *glutinis* to *Anquillula* and *tritici* to *Tylenchus*, and he further speaks of "the typical *Rhabditis terricola*" which probably refers to *terricola* as type. Schneider (1866,148) rejected the name *Rhabditis* on the ground that its relations to *Pelodera* and *Leptodera* were so complicated. His *P. teres* is interpreted by Railliet as synonymous with *R. terricola*; he eliminated *aceti* and *glutinis* to *Leptodera* and *tritici* to *Anquillula*.

Thus, if we try to settle the type of *Rhabditis* on the principle of elimination, the citation of Gervais & van Beneden might be interpreted as a designation of *aceti* as type, yet this interpretation is by no means free from objection. The exclusion of *tritici* from further consideration as type, on basis of Gervais & van Beneden, would also be open to question in the minds of some authors. If we adopt unre- servedly the principle of type by later designation, as at present provided for by the International Code, Bastian's action of 1865 would settle the point that *terricola* is the type of *Rhabditis*; and as stated above, this ruling would agree with the ruling by page precedence.

*Rhabditis* is thus seen to be the first case in this discussion in connection with which the principle of "type by inclusion" is seriously contraindicated by existing rules; had Bastian not designated *terricola* as type, we would now designate *glutinis* as such on the ground of type by inclusion, but in view of Bastian's designation, type by inclusion is perhaps not admissible in this case. See *axiom* 2, p. 24.

*Trichosoma* Rudolphi, 1819a, 13, was deliberately proposed as a new name for *Capillaria*, 1800, and included both of the original species of *Capillaria*; both of these species have been retained in *Trichosoma* by Dujardin (1845a), Diesing (1851a, 1861a), and Stossich (1890). Neither of them appears to have been made the type of other genera, so that the principle of elimination does not seem to come into consideration. If the case is decided on page precedence, *brevicolle*, 1809, becomes type of *Trichosoma*. This species is *capillaris*, 1819, renamed, which is "type by virtual tautonomy" of *Capillaria*. It would also be "type by inclusion" of *Trichosoma*.

*Triodontophorus* Looss, 1902, is *Triodontus*, 1900 (not 1845), renamed, hence would take the same type; for neither genus was a type originally named, but Looss has since designated *servatus* as such.

Helminthologists, after studying the examples given above, will probably admit that the principle of type by inclusion is in accord with the general spirit of the Law of Priority. That it seems Draconian in some cases can not be denied, but it certainly greatly simplifies the method of determining types in not an inconsiderable number of genera and has the great advantage of permitting their determination on the basis of the original publication, thus reducing the number of
cases in which we must have recourse to the still less satisfactory method of "type by elimination."

It may be advanced against the principle of "type by inclusion" that the included type may be a little known or even an invalid species. If, however, the species was invalid from the standpoint of the author who included it in a later genus, or if he doubtfully referred it to his new genus, it would of course be excluded as type; if on the contrary it was simply a slightly known form, and he still unreservedly included it among his valid species, without showing that he did not consider this species as type, the case still represents a renaming of an earlier genus.

It seems quite clear that a "type by original designation" (see p. 30) should take precedence over a "type by inclusion," since the former is intentional and results from a desire to conform to the rules of nomenclature, while the latter is either an accident or due to ignoring the rules of nomenclature. Accordingly we might have the following case:

\[ X-us, 1890, \text{containing } \]
\[ \text{albus, 1890, type by original designation, and } \]
\[ \text{niger, 1885, type of } Y-us, 1885. \]

In this case an author who would go so far as to explicitly designate \textit{albus} as type would probably have adopted \textit{Y-us} if available had he known of its existence and that \textit{niger} was its type. It seems but just, therefore, to bind \textit{X-us} to \textit{albus}, to stand or fall according to the later history of \textit{albus}, not only from the point of view that the author of \textit{X-us} has complied with the requirements of the case, but because of the fact that by such designation the author of \textit{X-us} has explicitly stated that he considered \textit{albus} the standard of reference of \textit{X-us}. Thus a case of this kind would come under the principle enunciated under type by original designation, page 30.

9. Genera Containing Types of Several Earlier Genera.

\textbf{RULE.---}If a genus without a designated type contains types of two or more earlier genera, the type of the new genus is to be selected from the contained types (the case being the same as a genus with two or more species, according to the number of types in question), unless it can be shown that such procedure is directly contraindicated by the original author's intentions.

Under this heading may be cited one of the most unnecessary renamings of genera that is known in helminthology.

\textit{Prosthecosacter} Diesing, 1851a, contained four species, three of which were known to Diesing to contain the types of three monotypical genera:

- \textit{inflexus} contained as synonym \textit{filum}, type of the monotypical genus \textit{Pseudalius}, 1845; cited by Diesing.
- \textit{minor} contained as synonym \textit{inflexus}, type of the monotypical genus \textit{Stenurus}, 1845; cited by Diesing.
- \textit{convolutos}.
- \textit{alatus}, type of the monotypical genus \textit{Pharurus}, 1848; cited by Diesing.
Possibly some authors would argue that *convolutus*, as the only remaining species, not a type, should be selected as type of *Prosthecoseaster*. Not the faintest excuse, however, can be advanced for the generic name *Prosthecoseaster*. Either *Pharurus*, *Pseudalbus*, or *Stenurus* should have been used by Diesing, regardless of the correctness of his synonymy. We would suggest *minor* as type of *Prosthecoseaster*. If, now, *Stenurus*, 1845, is considered invalid because of *Stenurus*, 1834 (see p. 75), *Prosthecoseaster* can be used in its place.

**CASE OF ACUARIA, SPIROPTERA, ANTHURIS, AND DISPHERAGUS.**

The genera *Acuaria* Bremser, 1811a, *Spiroptera* Rudolphi, 1819a, *Anthuris* Rudolphi, 1819a, and *Dispharagus* Dujardin, 1845a, present a very complicated case of nomenclature and should be considered together, since their histories are so intimately connected.

*Acuaria* was proposed by Bremser, 1811a, 26, with the following short diagnosis: "Vermis teres, elasticus, utrinque attenuatus. Ore papillosus." He did not give any specific names to the 14 supposed species he found, but he gave the hosts in which they occur. These species are:

1 = *Spiroptera anthurus* Rudolphi, 1819a, 25, ♂ ♀. Reported by Bremser from *Corvus, Coracias garrula*, and *Oriolus galbula*. It was taken as basis for the genus *Anthuris* Rudolphi, 1819a, 244, of which it is type by absolute tautonymy, and also clearly by Rudolphi's original intentions; *Anthuris* is clearly *Acuaria* renamed, as admitted by Rudolphi; hence by the rule proposed on page 40 it becomes type of *Acuaria*, which it would also be in case the ruling were made on basis of page precedence. *S. anthurus* also becomes type of *Spiroptera*, because *Spiroptera* is, as admitted by Rudolphi, a new name for *Acuaria* and *Anthuris*, and, being *Acuaria* and *Anthuris* renamed, it takes the same type (*anthurus*). *S. anthurus* was transferred to *Dispharagus* by Dujardin, 1845a, 75, of which it becomes the type by inclusion; see below, page 50. Diesing, 1851a, 215, returned *anthurus* to *Spiroptera*. Bremser's original material was reexamined by Schneider, 1866, 96, who eliminated the specimens from *Coracias garrula* as a new species, *Filaria capitellata*, expressed doubts as to the specimens from *Oriolus galbula*, and practically reduced the original material, as *Filaria anthurus*, to the specimens from *Corvus glandarius*, which now by elimination becomes the type host. Stossich, 1891, 88, retains *anthurus* in *Spiroptera*.

2 = *Spiroptera euryoptera* Rudolphi, 1819a, 26. ♂ ♀. Hosts: *Lanius*. Retained in *Spiroptera* by Dujardin, 1845a, 97; Diesing, 1851a, 218; and Stossich, 1897, 97.

3 = *Spiroptera attenuata* Rudolphi, 1819a, 25. ♂ ♀. Hosts: *Hirundo*. To *Dispharagus* by Dujardin, 1845a, 74, and Stossich, 1891, 93; to *Spiroptera* by Diesing, 1851a, 215; to *Filaria* by Schneider, 1866, 89.

4 and 5 = *Spiroptera anthurus*; see 1.

6 = *Spiroptera bidens* Rudolphi, 1819a, 24. ♂ ♀. Host: *Merops apiaster*. To *Dispharagus* by Dujardin, 1845a, 77, by conjecture; to *Ancyracanthus* by Schneider, 1866, 105.

7 to 9 = *Spiroptera*, species inquirendae in Rudolphi, 1819a, 28.

10 = *Spiroptera revoluta* Rudolphi, 1819a, 26. ♂ ♀. Host: *Charadrius himantopus*. To *Dispharagus* by Molin, 1860, 492.

11 to 13 = *Spiroptera*, species inquirendae in Rudolphi, 1819a, 28-29.

14 = *Spiroptera elongata* Rudolphi, 1819a, 26. ♂. Host: *Sternula nigra*. Retained in *Spiroptera* by Dujardin, 1845a, 102; Diesing, 1851a, 217; to *Filaria* by Schneider, 1866, 94; to *Dispharagus* by Stossich, 1891, 95.
Rudolphi (1819a, 22–29, 235–255) reexamined Bremser's original material, and although fully aware of the existence of Acuaria, which he even mentioned by name, he ignored the name and at first renamed the genus Anthuris (see below), but later changed his mind and again renamed it Spiroptera. Of the 14 original species of Acuaria, Rudolphi recognized 6 as valid, namely, Acuaria Nos. 1 (+ 4 + 5), 2, 3, 6, 10, and 14, while the remaining, namely, Nos. 7, 8, 9, 11, 12, and 13, he gave as doubtful. All helminthologists will probably admit that the type of Acuaria should be selected from the species which Rudolphi considered valid.

If the rule of page precedence were adopted, anthuris could be taken as a type of Acuaria, and if the indefinite process of elimination were followed, Spiroptera euryoptera would probably be type. We maintain, however, that Anthuris and Spiroptera should be examined to see what influence they have upon this point in possibly deciding the question in some other way. We had at first overlooked Anthuris, and thought that S. euryoptera would probably be type by elimination, and on basis of this provisional opinion Ransom (1904, p. 38) took it as probable type. Since then, however, it has been recognized that Anthuris had been overlooked, and an examination of this genus shows that the original provisional view referred to above must be modified.

Anthuris was published by Rudolphi, 1819a, 244, but not accepted by him. As the name was published, however, it exists and must be considered. This name, as shown by Rudolphi, was based upon Spiroptera anthuris and should be judged upon the rule of type by absolute tautonymy. S. anthuris, therefore, is here accepted as type of the genus Anthuris, and since Anthuris is, admittedly, Acuaria renamed, it is maintained on the basis of the rule proposed on p. 40 that S. anthuris becomes type of Acuaria.

In the same paper, Rudolphi (1819a, 22–29, 235–255) introduced the new generic name Spiroptera; this included the entire genus Acuaria, hence its type, S. anthuris, also the entire genus Anthuris with its type, S. anthuris, and the monotypical genus Cystidicola, hence its type C. farionis. In other words, Rudolphi united two preexisting genera (Acuaria, 1811, and Cystidicola, 1798) in a genus (Spiroptera) for which four generic names (Acuaria, 1811, Anthuris, 1819, Cystidicola, 1798, and Fissula, 1801) were available, and we hold (see p. 47) that the type of Spiroptera should be selected from the included types (S. anthuris and C. farionis). Further, since Rudolphi distinctly states that Spiroptera equals Acuaria renamed, the type of Acuaria (anthuris) becomes (see p. 40) the type of Spiroptera.
Dispharagus was proposed by Dujardin (1845a, 42, 69-82) with the following species:

laticeps (Rudolphi, 1819) Dujardin, 1845a, 71.
tenuis Dujardin, 1845a, 73. Species inquirenda in Stossich, 1891.
subula Dujardin, 1845a, 73-74. Species inquirenda in Stossich, 1891.
attenuatus (Rudolphi, 1819) Dujardin, 1845a, 74-75.
nasutus (Rudolphi, 1819) Dujardin, 1845a, 75.

anthuris (Rudolphi, 1819) Dujardin, 1845a, 75-77. Type of Acuaria, 1811, Anthuris, 1819, and Spiroptera, 1819.

truncatus (Crepin, 1825) Dujardin, 1845a, 77. To Spiroptera by Diesing, 1851, and Molin, 1860.

bidens (Rudolphi, 1819) Dujardin, 1845a, 77-78.
decorus Dujardin, 1845a, 78, pl. 3, fig. K. To Histioccephalus, 1851.
quadrilobus (Rudolphi, 1819) Dujardin, 1845a, 79.
laticaudata (Rudolphi, 1819) Dujardin, 1845a, 79. To Histioccephalus, 1851.
bicuspid (Rudolphi, 1819) Dujardin, 1845a, 79-80.
brevicaudatus Dujardin, 1845a, 80. To Histioccephalus, 1851. Species inquirenda in Stossich, 1891, and Molin, 1860, 500.
denudatus Dujardin, 1845a, 81, pl. 3, fig. G. To Histioccephalus, 1851.
cystidicola (Lamarec, 1801) Dujardin, 1845a, 81-82; = Cystidicola = Fissula cystidicola Bosc; = Ophistoma cystidicola (Bosc) Rudolphi, 1809; = Spiroptera cystidicola (Bosc) Rudolphi, 1819.

Thus Dujardin deliberately introduced a new name (Dispharagus) for a genus for which he was perfectly aware there were two earlier names (Cystidicola, 1798, and Fissula, 1801) available; he also included in this group the type (anthuris) of a genus (Anthuris) which apparently he and all other helminthologists have overlooked. We maintain that the type of Dispharagus should be selected (p. 47) from the included types (anthuris and cystidicola = farionis), and since Dujardin (1845a, 69) had the gastric parasites of birds particularly in mind in proposing this genus, preference is here shown to anthuris over farionis.

It seems that the ruling here followed, of type by absolute tautonomy combined with the rules of type by inclusion, disposes of the generic names in question in a far more satisfactory manner than the indefinite method of type by elimination. The rule of absolute tautonomy is certainly inherently just, and once this is acknowledged, a rule is available which can be followed objectively; the rule of type by inclusion exists since 1846 (see p. 15) and is fully in harmony with the law of priority. A combination of the two rules in this case disposes of a very complicated combination of conditions which, ruled upon from other points of view open up numerous chances for differences of opinion. The type selected is one found in a common host and therefore not especially difficult to obtain; it further satisfies the rule of page precedence for authors who follow that rule. The possible objection that it disposes of two well-known generic names, Spiroptera and Dispharagus, is of less importance than at first appears, for neither of these genera is of very much importance in either human or veterinary
Determination of Generic Types, Etc. 51

medicine, and even as used by zoologists these genera are very indefinite, while one of them is admitted by Railliet to be arbitrary.

In connection with the above discussion it might be well to examine Dispharagus from another point of view.

Dujardin (1845a, 71) distinctly states that he placed here by conjecture five species of Spiroptera, and all systematists will doubtless agree that none of these five species should come into consideration as type. He mentions (pp. 77-78) bidens as one of these, attributing the diagnosis to Rudolphi. He further attributes the diagnoses to Rudolphi in the case of laticeps, quadrilobus, laticauda, and bicuspis, none of which he appears to have examined. The conclusion seems justified, therefore, that these are the five conjectural species in question.

Dujardin (1845a, 72) fails to name three species he examined, namely, "Dispharage du hobereau," "?Dispharage de l'épervier (B.)," and "?Dispharage de l'épervier (D);" and probably all systematists will agree in excluding these also from consideration as type.

Dujardin examined, named, and described as new: tenuis from Saxicol a rubetra; subula from Sylvia rubecula; decorus from Alcedo ispida; brevicaudatus from the "butor;" and denudatus from Cyprinus erythrophthalminus. He also examined personally and classified as members of Dispharagus (without indicating any question in his mind as to the correctness of his generic determination): attenuatus (Rudolphi) from Hirundo rustica and H. urbica; nasutus (Rudolphi) from Fringilla domestica; anthuris (Rudolphi) from Corvus glandarius, C. pica, C. frugilegus, Caryocactes, Corvus corax, C. corone, C. cornix, Pyrrhocorax alpinus, Coracias garrula, and Oriolus galbula; truncatus (Crepelin) from Upupa epops; and cystidicola (Bosc) from Salmo fario and Salmo thymatus laterus.

It is interesting to note that if this case were ruled upon by page precedence, either decorus, laticeps, or tenuis might be selected, according to the different views of interpreting page precedence, although laticeps should certainly be ruled out, since the generic determination was only conjectural.

Thus, it is probable that in determining the type of Dispharagus, most authors would be inclined to select it from: tenuis, subula, decorus, brevicaudatus, denudatus, attenuatus, nasutus, anthuris, truncatus, and cystidicola. But of these ten species, two species (anthuris and cystidicola), or 20 per cent, are already types of genera, hence Dujardin united older genera, involving five available names, into a genus for which he proposed a new name; he was well aware of the fact that at least one of the species (cystidicola) was type of an earlier genus and he also knew that at least four of the five names were available. If, now, from his point of view, Spiroptera is transferred to another group, at least one type (cystidicola) with two generic names (Cystidicola and Fissula) were available for use; and in addition Anthuris
BUREAU OF ANIMAL INDUSTRY.

(probably overlooked by Dujardin) was also available. That *Dispharagus* had no raison d'etre is therefore clear, and the least that can be done is to apply to it the Law of Priority, according to which Dujardin should have used *Cystidicola*, from his systematic point of view. He says, however, that "almost all of the species" which he unites in *Dispharagus* are "entre les tuniques de l'estomac ou du gesier des oiseaux," so that it is only fair to follow, if possible, the De Candolle principle (see below, p. 65) to confine *Dispharagus* to the greatest number of species possible. This would eliminate *Cystidicola* in favor of the *anthuris* group. But *anthuris* is the type of *Anthuris*, 1819, hence, *Anthuris* takes priority over *Dispharagus*, even from Dujardin's systematic point of view. One is therefore brought to the same point, but by a more indirect method, of suppressing *Dispharagus* in favor of *Anthuris*, and taking *anthuris* as type. *Anthuris*, however, is *Acuaria* renamed, and *Spiroptera* is also *Acuaria* renamed, hence, on basis of the type species, *Acuaria*, *Anthuris*, *Spiroptera*, and *Dispharagus* should all be synonyms.

This leaves the generic name *Cheilospirura* (type *hamulosa*, see p. 93) available for the species at present included by more recent authors (Stossich, 1891; Railliet, 1893) under *Dispharagus*.

Authors who do not accept "type by inclusion" should notice that Stossich (1891) in his revisions recognizes only five of Dujardin's species as valid members of this genus, namely, *anthuris*, *attenuatus*, *laticeps*, *nasutus*, and *quadrilobus*, and confines the genus to parasites from the gastroenteric region of birds. As *laticeps* and *quadrilobus* seem to have been placed here by conjecture, both of these should, if possible, be avoided as type. Accordingly, authors who reject "type by inclusion" would probably select either *anthuris*, *attenuatus*, or *nasutus* as type.

In most of the cases thus far mentioned under the nine headings (pp. 25-52), the type of the genus seems to us to be either clearly determined in one way or another in the original publication; or at least it is restricted to certain of the species. We now pass to

B. GENERA FOR WHICH TYPES HAVE BEEN SELECTED IN LATER PUBLICATIONS.

10. TYPE BY SUBSEQUENT DESIGNATION.

RULE.—If an author, in publishing a genus with more than one valid species, fails to designate or to indicate its type, any subsequent author may select the type, and such designation is not subject to change.

This canon is a logical corollary of the law of priority, but it is of course assumed that the second author has correctly selected as type some species which was available as such. If he has selected a species which was not available, his selection is not binding.
**Determination of Generic Types, etc.**

*Distoma lanceolatum*, for instance, has been designated by several authors as type of *Distoma*, but such designation can not hold, since *Distoma* is simply *Fasciola* renamed, and the type of *Fasciola* had already been established by elimination; furthermore, *lanceolatum* was not one of the original species of either *Fasciola* or *Distoma*, hence it was not available as type.

*Ucinaria vulpis* had been designated as type of *Ucinaria*, hence Looss’s (1902) selection of *U. melis* as type is not to be accepted unless he can show that the earlier designation of *U. vulpis* was inadmissible.

The view has been advanced by several authors that a writer in order to designate a type for an earlier genus must actually divide the genus. This view has not been generally accepted, nor is it one which can not be nullified at will, for any author can surely propose a typical subgenus and at that time determine the type.

In some cases the author of a genus has selected the type after the genus has been published. As original authors can best tell what particular species they had in mind in establishing their genera, probably all authors will agree to the following types:

**ROUNDWORM GENERA WITH TYPES BY LATER DESIGNATION.**

*Alaimus* de Man, 1880 (*primitius* designated by de Man).

*Anthraconema* zur Strassen, 1904 (*weismanni* designated by zur Strassen).

*Anticoma* Bastian, 1865 (*eberti* designated by Bastian), see p. 87.

*Aphelechus* Bastian, 1865 (*avenex* designated by Bastian), see p. 87.

*Arxolaimus* de Man, 1888 (*bioeculatus* designated by de Man).

*Axonolaimus* de Man, 1889 (*spinosus* designated by de Man).

*Cephalobus* Bastian, 1865 (*persegnis* designated by Bastian), see p. 92.

*Chromadora* Bastian, 1865 (*vulgaris* designated by Bastian), see p. 94.

*Chromagaster* Cobb, 1894 (*purpurea* designated by Cobb).

*Comesoma* Bastian, 1865 (*vulgaris* designated by Bastian), see p. 95.

*Cyatholaimus* Bastian, 1865 (*ocellatus* designated by Bastian), see p. 97.

*Cylindrolaimus* de Man, 1880 (*communis* designated by de Man).

*Gigantorhynchus* Hamann, 1892 (*echinodiscus* designated by Hamann).

*Hypodolaimus* de Man, 1886 (*insequalis* designated by de Man).

*Laxus* Cobb, 1894 (*longus* designated by Cobb).

*Linhomoxus* Bastian, 1865 (*hirsutus* designated by Bastian), see p. 116.

*Monhystera* Bastian, 1865 (*stagnalis* designated by Bastian), see p. 120.

*Mononchus* Bastian, 1865 (*truncatus* designated by Bastian), see p. 121.

*Neochnorhynchus* Hamann, 1905 (*claviceps* designated by Hamann).

*Nearhynchus* Hamann, 1892 (*claviceps* designated by Hamann).

*Parachordodes* Camerano, 1897 (*tolosanus* designated by Camerano).

*Paramermis* von Linstow, 1898 (*crassa* designated by von Linstow).

*Penzancia* de Man, 1889 (*velox* designated by de Man).

*Phanoderma* Bastian, 1865 (*cocksii* designated by Bastian), see p. 129.

*Plectus* Bastian, 1865 (*parietinus* designated by Bastian), see p. 130.

*Prismatolaimus* de Man, 1880 (*intermedius* designated by de Man).

*Rhabdolaimus* de Man, 1880 (*terrestris* designated by de Man).

*Spira* Bastian, 1865 (*parasitifera* designated by Bastian), see p. 137.

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^1 Looss also has recently accepted this view.
Symlocostoma Bastian, 1865 (longicollis designated by Bastian), see p. 140.  
Symnchus Cobb, 1894 (fasiculatus designated by Cobb).  
Tachypholis Bastian, 1865 (natans designated by Bastian).  
Trilobus Bastian, 1865 (gracilis designated by Bastian).  
Triodontophorus Looss, 1902 (serratus designated by Looss).  
Tripylula Bastian, 1865 (glomerans designated by Bastian).  
Tripyloides de Man, 1886 (vulgaris designated by de Man).  
Tylenchoalimus de Man, 1876 (mirabilis designated by de Man).  
Tylenchus Bastian, 1865 (davainii designated by Bastian).  
Viscosia de Man, 1890 (viscosus designated by de Man), see p. 149.  
Zoniotaimus Cobb, 1898 (setifera designated by Cobb).

In still other cases the type has been designated by other than the original author. Several of these cases it will be well to examine rather closely:

_Acanthocephalus_ Kelreuter, 1771a (Echinorhynchus_ anguille_ designated by Luche, 1905, 329).  
_Angiostoma_ Dujardin, 1845 (limacis designated by Schneider), see p. 34.  
_Anisakis_ Dujardin, 1845, 220; type "simplex" misdet. = _dussamii_ designated by Stiles & Hassall, 1899, 103.  
_Anguillula_ Hemprich & Ehrenberg, 1828; _aceti_ was designated as type by Bastian, 1865c, 110, but since this was not among the original species of_ Anguillula_ Ehrenberg [not Mueller], this designation can not hold. For fuller discussion of this case, see p. 34.  
_Cucullanus_ Mueller, 1777; _elegans_ was designated as type by Dujardin, 1845a, 245. Mueller, 1777, is not accessible to us, and we find it somewhat difficult to judge this case from later literature.  
_Oncholaimus_ Dujardin, 1845; _attenuatus_ has been designated as type by Bastian, 1865c, 100, and de Man, 1886, 9. This is a rather complicated case, involving the principle of elimination and can best be discussed under that head. See p. 62.  
_Paragordius_ Camerano, 1897; _varius_ is the only species of _Paragordius_ Montgomery, proposed independently as a new genus. This may also be interpreted as designation of type for _Paragordius_ Camerano.  
_Uncinaria_ Froelich, 1789; _vulpis_ was designated as type by Stiles & Hassall, 1899, 164; _melis_ was designated as type by Looss, 1902.

Our reasons for designating _vulpis_ as type of _Uncinaria_ were the following: Froelich mentioned two species, _melis_ and _vulpis_; he examined _vulpis_ but not _melis_; he figured _vulpis_ (Geze had figured _melis_); he was accordingly personally acquainted with _vulpis_, while _melis_ he knew only through Geze's writings; his description of the lips of _vulpis_ is far clearer than any idea of the lips he could have obtained from Geze's figures, and this applies also to the rest of the worm. Now, when an author proposes a new genus, his conception of the genus is greatly influenced by what he sees in the species he examines, and on this account, other things being equal, we consider it best to take as type a species which the author has personally examined rather than one he knows only from the literature (except, of course, in cases of type by inclusion). We see nothing in Froelich's account which convinces us that he was influenced more by _melis_ than by _vulpis_; hence, _vulpis_ was designated as type.
Some authors believe that types should be confined entirely to species personally examined by the author of the genus, but it will scarcely be possible to carry out this rule.

C. GENERA FOR WHICH NO TYPE HAS BEEN DEFINITELY SELECTED.

Unfortunately a very large number of generic names with which one has to deal at present come under this category. In determining the type we should be governed by certain general principles. It is, however, difficult to lay down any general scheme of precedence in which these principles shall apply, since individual cases may be influenced by considerations of a practical nature. Naturally it would be a desideratum if the subjective element were entirely eliminated in such matters, but it is doubtful whether it is practical to insist upon this point.

11. COLLECTIVE BIOLOGICAL GROUPS REQUIRING NO TYPE SPECIES.

RULE.—Certain biological groups which have been distinctly proposed as collective groups, but not as systematic units of generic rank, may be treated for convenience as if they were genera, but they require no type species.

Certain so-called genera have been more or less distinctly proposed as unnatural collective groups in which to place forms which have not yet reached stages in development permitting a definite generic determination. As well-known examples may be mentioned *Agamodistomum*, *Amphistomulum*, etc. These groups can best be recognized in their original sense, but they should have no type designated for them, and they should not compete with true generic names in connection with the law of priority.

As examples of this kind cited in the present list may be mentioned the following:

*Agamonermis* Stiles, 1903, distinctly proposed as an artificial collective group for immature Mermithididae which can not be definitely determined generically until the adult stage is known.

*Agamonema* Diesing, 1851, can be interpreted as a group of the same kind, for immature nematodes, especially of fish.

*Agamonematodum* Diesing, 1861, also can be interpreted in the same way.

*Dubiun* Diesing, 1851, is apparently intended as a group of the same nature.

*Merinthoidea* and *Merinthidum* Kremmer, 1853, were distinctly proposed as "cache-desordre" for worms resembling *Filaria*, *Gordius*, and *Mermis*.

*Nematoides* Diesing, 1851, is apparently used in the same sense, namely, as a purely collective, indefinite group.

Collective groups of this kind are of course unnatural, but they are nevertheless convenient, for they enable an international specific nomenclature for certain forms without recourse to classifying worms in an uncertain manner in genera which have a more or less definite status.
In case species are temporarily classified in such collective groups, we believe their specific names should be entitled to priority when they are definitely classified in their proper genera.

12. Type by Elimination.

RULE.—The following species are excluded from consideration in selecting the types of genera:

[(a) Species which were not included under the generic name at the time of its original publication.]

[(b) Species which were species inquirendae from the standpoint of the author of the generic name at the time of its publication. (See p. 29.)]

[(c) Species which the author of the genus doubtfully referred to it.]

[(d) Species which have subsequently been selected to serve as types for other genera, unless this applies to all of the available species, in which case the last species so selected becomes the type of the original genus; or unless the species which the original author took as his type has been transferred, in which case the original author's intentions should be carried out.]

[RULE.—In case of Linnaean genera, select as type the most common or the medicinal species.]

RECOMMENDATIONS.—The following species should be shown preference in selecting the type, unless such procedure is contraindicated by the original author's intentions or by practical considerations:

(a) If the genus contains both exotic and nonexotic species from the standpoint of the original author, the type should be selected from the nonexotic species.

[(b) If some of the original species have later been classified in other genera, but not designated as their types, preference should be shown to the species still remaining in the original genus.]

[(c) All other things being equal, page precedence should obtain in selecting a type.]

[(d) Species based upon sexually mature specimens should take precedence over species based upon larval or immature forms.]

[(e) All other things being equal, show preference to a species which the author of a genus actually studied at or before the time he proposed the genus.]

[(f) Show preference to a species bearing the name communis, vulgaris, medicinalis, or officinalis.]

[(g) Show preference to the best described, best figured, best known, most easily obtainable species, or of which a type specimen can be obtained.]

[(h) Show preference to a species which belongs to a group containing as large a number of the species as possible.]

[(i) In parasitic genera select, if possible, a species which occurs in man or in some food animal, or in some very common and widespread host.]
results, it is next necessary to determine what original species of the genus are still available as types, and this of course involves a determination of the species which are not available.

ELIMINATION OF SPECIES INQUIRENDÆ.

In the foregoing pages (p. 29) the stand has been taken that one class of species, from the very nature of things, should be considered unavailable as types, namely, species which the original author considered species inquirendae. Covering a second class of species, which are almost universally considered as unavailable for types, the following rule may be formulated:

ELIMINATION OF DOUBTFULLY REFERRED SPECIES.

RULE.—No species is available as type of a genus if the original author referred said species doubtfully or only conjecturally to the genus in question.

Such a rule seems to be in accord with the best practices in systematic zoology, and seems so eminently justified that a special discussion of the rule appears scarcely necessary.

It is clear that in selecting a type some species should be taken which the author had particularly in mind as a typical representative of the genus. If an author is in doubt as to whether a given species belongs in the genus he is proposing, it is self-evident that he did not consider it a typical representative species of the group and that he had other species more particularly in mind in proposing the genus and writing the generic diagnosis. Accordingly, the doubtful reference of a species to a genus is ipso facto a denial that that species is type.

For instance, in proposing and discussing the genus Lecithodendrium, Looss (1896, 86) said: "De ce groupe font partie, de plus, les Distomum ascidia et ascidioides van Ben. et probablement aussi le Dist. heteroporum Duj." Since Looss expressed this reserve regarding the classification of D. heteroporum in Lecithodendrium, he certainly did not consider it the type of his genus; in fact, this very reserve practically amounted to a definite statement at the time the genus was proposed that heteroporum was not in his mind the type. This example will serve to illustrate quite a number of cases in various groups. See also Euchromadora.

Ruling out from further consideration all species inquirendae (from the standpoint of the original author of a genus at the time of its proposition), see page 29, and also all species originally placed in a genus with reserve, with doubt, or by conjecture, we next come to the species which from other causes should be eliminated from consideration.
RESTRICTED AND UNRESTRICTED ELIMINATION.

RECOMMENDATION.—If the genus contains both exotic and nonexotic species from the standpoint of the original author, the type should be selected from the nonexotic species, unless such procedure is contraindicated by the original author's intentions.

It will be seen from page 17, that the A. O. U. Code distinguishes between restricted and unrestricted elimination. For examples of the two processes the reader is referred to page 17.

So far as the Linnaean genera are concerned, it must be admitted that there are certain advantages in restricted elimination, and so far as general theory is concerned there are advantages in this process when applied to later genera. There are also, however, difficulties involved, and at present it would seem better to view restricted elimination as a recommendation rather than as a rule.

ELIMINATION OF SPECIES SELECTED AS TYPES OF OTHER GENERA.

RULE.—Any species of a genus which has been selected to serve as type for a later genus is excluded from consideration in selecting the type of the earlier genus, unless this applies to all of the available species, in which case the last species so selected becomes the type of the original genus.

In not a few genera the type species has been consciously or unconsciously determined by the transfer of all but one of the original available species to serve as types for new genera. In such event it is in accordance with practice and rules to accept the remaining species as type; or in case several species have not been thus eliminated it is customary to restrict the selection of type to these species, thus excluding from consideration all species which have been selected as types for more recent genera.

As examples of genera of this kind cited in the present paper, we may mention the following:

Spiliphera Bastian, 1865, contained the following species:
  elegans.
  inaequalis, type of Hypodontolaimus, 1888.
  robusta, type of Halichoanolaimus, 1888.
  costata, type of Monoposthia, 1889.

By the principle of elimination of species as types of other genera, elegans remains as type of Spiliphera. This case agrees with page precedence, and also with Bastian's original intentions, for he adopted the custom of placing his type as the first species.

Theristus Bastian, 1865, contained the following species:
  acer, type by elimination, author's intention, and page precedence.
  velox, type of Penzancia, 1889.

In some cases it is nevertheless necessary to select as type a species of the original genus which has been selected as type for a more recent genus. Two kinds of cases may arise, namely:
(a) Cases in which all of the original species have been selected as types for more recent genera, as, for instance,

- X-us, 1840, with the species:
  - albus, type of Y-us, 1845.
  - cinereus, type of Z-us, 1850.
  - niger, type of M-us, 1855.

In a case of this kind the last species so transferred (niger in the hypothetical case cited) is taken as type of the original genus (X-us), and the new genus (M-us) based upon this species is suppressed as an unconditional synonym.

(b) In other cases the species which the original author intended as type has been made the type of a new genus. In this instance the original author’s intentions should be carried out. One such case is found among nematodes, namely:

Chromadora Bastian, 1865, contained:

- vulgaris, which de Man took as type for Euchromadora, 1886, and eight other species, none of which appears to have been eliminated.

De Man’s action was unfortunate in this case. By the Linnaean principle of 1751 (see below, p. 64), vulgaris should have had preference as type of Chromadora, even if de Man was not aware of the fact that Bastian intended this as his type. It seems best in this case to carry out Bastian’s intentions of taking vulgaris as his type.

The general principle of type by elimination, as judged upon the cases of Spiliphera, Theristus, and the hypothetical case of X-us, just given, might lead one to believe that “type by elimination” is a highly satisfactory method and of easy application. Any author, however, who will attempt to apply the method of “type by elimination” to a large number of genera, and to compare his methods with those of other systematists, will probably agree with us that the method as generally applied is frequently far from satisfactory. In fact, systematists are by no means agreed as to just what constitutes “elimination.” Because of a number of difficult cases which have come to our attention, we have discussed this subject with systematists in various groups in botany and zoology, and the views obtained may be classified as follows:

(a) Some authors maintain that when a species of a genus has been taken as the type of a new genus it is to be excluded from further consideration in selecting the type of the original genus, subject, of course, to the provisions mentioned under a and b (p. 59). All systematists will doubtless agree that this position is sound.

(b) Still other authors, however, go much further, and maintain that when a species of a genus has been transferred to another genus, by any author, rightly or wrongly, it is excluded from further consideration in selecting the type of the original genus. Thus:

Gezia Zeder, 1800, with two original species:

[Cucullanus ascaroides] = Gezia armata Rudolphi, 1801; and
inermis Zeder, 1800; transferred to Liorhynchus by Rudolphi, 1801 (but not as type); returned to Cochlius (namely, Gezia renamed), by Zeder, 1803.
Some systematists would maintain that since *inermis* was placed in *Liorhynchus* in 1801 it can not come into consideration as type of *Goezia*, and it is immaterial to these authors whether the transfer was a correct one or not.

(c) Some authors hold that if the transfer had been made by Zeder (the author of *Goezia*), the species could not be considered as type, but having been made by another than the author of *Goezia* it is still available as type.

(d) Other authors maintain that if, in the opinion of the author who wishes to establish the type of *Goezia*, Rudolphi's transfer of *inermis* was not correct from a systematic standpoint, this form can be returned to *Goezia* for the purpose of establishing the type.

(e) We have personally been inclined to follow the plan that, if some author has already transferred an eliminated species back to the original genus, we would consider it on the same basis as if it had never been taken out of the genus.


In view of this wide divergence of opinion, it is probably better to take a middle ground for the present and to divide the question of transfer into a rule and a recommendation. The rule covers the species selected as types of other genera (see p. 58), and the recommendation covers the other cases. Hence,

13. Preference to be Shown to Species not Subsequently Classified in other Genera.

RECOMMENDATION.—If some of the original species of a genus have later been classified in other genera, but not designated as their types, preference should be shown to the species still remaining in the original genus in selecting its type.

It may be readily admitted that this recommendation does not go far enough for certain cases, but the advisability of making it stronger at the present time seems doubtful. It is a middle ground, which can not be objected to as far as it goes. It is not denied that it does not go far enough to meet the views of certain very able men whose opinions upon the point at issue are valuable. The following cases are of interest in this connection:

*Ascaris* Linnaeus, 1758, originally contained two species:

- *vermicularis*, transferred to *Oxyuris*, 1803, by Bremser, 1819.
- *lumbricoides*, generally accepted as type of *Ascaris*; type of *Lombricoides*, 1821.

The nomenclatural considerations in connection with *Ascaris* are rather complex. (1) It might be maintained that, with authors prior to 1758, *Ascaris* referred to *Ascaris vermicularis* rather than to *Ascaris lumbricoides*, hence that the former should be taken as type. It is not necessary, however, to go back of 1758 in deciding the question, but,
all other things being equal, it would in fact be better to take *Ascaris vermicularis* as type. (2) Ceteris paribus, page precedence would make *Ascaris vermicularis* the type species. (3) The point could be raised that since *Stomachida vermis*, 1780, is identical with *Ascaris lumbricoides*, this species should be eliminated, leaving *Ascaris vermicularis* as type. Serious doubts arise, however, whether *Stomachida vermis* is not simply a Latin translation of a vernacular name, rather than a binomial according to the Linnaean system. In fact, it may be interpreted either way, and, other things being equal, it would be better to interpret it as a proper specific binomial. (4) It might be argued that since Zeder (1800a) mentioned *Ascaris lumbricoides* in *Fusaria*, he thereby eliminated this species from *Ascaris*, leaving *Ascaris vermicularis* as type. This view is, however, not free from criticism, since the proposal of *Fusaria*, 1800, was a flagrant renaming of the earlier and generally recognized genus *Ascaris*, 1758. (5) It may be argued that in 1819 *Ascaris* had the same status as a bitypical genus as in 1758, hence that Bremser was free to decide between *lumbricoides* and *vermicularis*, and since he placed *Ascaris vermicularis* in the genus *Oxyuris* which Rudolphi established in 1803, Bremser, by making the transfer, eliminated this species and thereby made *Ascaris lumbricoides* type of *Ascaris*. (6) Furthermore, it may be advanced that from 1819 to the present day nearly every zoological revision of the genera in question has followed Bremser in recognizing *Ascaris lumbricoides* as an *Ascaris*, and *Ascaris vermicularis* as an *Oxyuris*. (7) It may also be advanced that with few exceptions medical, veterinary, and zoological authors have blindly followed the classification here outlined, so that *Ascaris lumbricoides* and *Oxyuris vermicularis* have been in current use since 1819. (8) Finally, it may be stated that several authors have distinctly spoken of *Ascaris lumbricoides* as the type species of *Ascaris*, and it was not made the type of *Lumbricoides* until two years after *Oxyuris* was eliminated from *Ascaris*.

From the above remarks it will be seen that practical considerations call for the adoption of *Ascaris lumbricoides* as type species of *Ascaris*, unless theoretical principles of nomenclature demand the adoption of *Ascaris vermicularis* as such. It is also clear that, while it would probably have been better if Bremser (1819) had adopted *Stomachida*, 1780, for *Ascaris lumbricoides*, in order to take advantage of the 23 years between this name and *Oxyuris*, 1803, and if he had adopted *Ascaris* for *A. vermicularis*, still in view of the possible doubt regarding the status of *Stomachida*, such action was not obligatory. Hence,

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1 *Oxyuris vermicularis* has but little in common with *O. curvula*, and will doubtless soon be recognized as a distinct genus. It is now type of the subgenus *Oxyurias* Stiles MS.
.no theoretical grounds are at present apparent for rejecting *Ascaris lumbricoides* as type species of *Ascaris*.

*Sclerostoma* Rudolphi, 1809, contained 2 species:
- *equinum*, which is type for *Strongylus*, 1780.
- *dentatum*, transferred to *Esophagostomum*, 1861 = *E. subulatum*, 1861, type.

In this case *equinum* is also “type by inclusion.”

*Liorhynchus* Rudolphi, 1801, contained
- *Ascaris tubifera* Fabricius, 1780; to *Echinorhynchus* by Zeder, 1803; returned to *Liorhynchus* by Rudolphi, 1809.
- *Ascaris truncata* Rudolphi, 1793; probably type of *Liorhynchus*.
- *Gezia inermis* Zeder, 1800; to *Cochlus* by Zeder, 1803.

*Oncholaimus* Dujardin, 1845, contained
- *attenuatus* Dujardin; to *Enophus* by Diesing, 1851; returned to *Oncholaimus* as type by Bastian, 1865, and de Man, 1886, 9. It should probably be accepted as type (see p. 121).
- *fovearum* Dujardin; to *Mononchus* by Bastian, 1865.
- *muscorum* Dujardin; to *Mononchus* by Bastian, 1865.

14. Type by Page Precedence.

**RECOMMENDATION.**—All other things being equal, page precedence should obtain in selecting a type.

Several authors have raised page precedence to the rank of an ironclad law. They argue that the first place a specific name is found combined with a generic name represents the first publication of a name, hence that the species in question necessarily represents the type in accordance with the spirit of the law of priority. They further advance the point that page precedence is absolutely objective, hence subjective opinions are eliminated, and every zoologist would necessarily select the same species as type. In their position no difference in principle is acknowledged between two separate publications, on the one hand, and, on the other hand, two separate pages in one and the same publication, or two separate lines on the same page, or two separate words on the same line. The logical deduction from their position is that every genus should be viewed as having had its type determined in its original publication.

It must be admitted that there are certain very great advantages in this rather Draconian point of view. Still it may lead to the very confusion it seeks to avoid, and it may give rise to complications which could just as easily be avoided. In several cases in nematodes it would make as type a species based upon the female alone, although the author had described the male for other species. In view of the importance of the male in classifying nematodes, helminthologists will doubtless be rather reserved in admitting page precedence to higher rank than a recommendation to be followed when all other factors are equal.
In view of the fact that some men endeavor to consistently apply page precedence, it is well for those of us who do not adopt it as a rigid rule to at least follow it in all cases where it is a matter of indifference to us which of two species is taken as type. A consistent adoption of page precedence as a rigid rule may result in the designation of a doubtful or even invalid species as type, because of the arrangement of the species in a work; or since an alphabetical index to species may be bound in some copies of a work in front, in other copies in back, some authors might insist that one species is type, while other authors would be consistent in insisting that another species is type. Still other authors apply the principle only to the systematic portion of a paper. As a rigid rule, page precedence seems to us to be unsafe, furthermore, because its application may entirely misrepresent an original author's idea and intentions. See also pp. 20, 24.

If an author states that the types of his own genera should be selected by page precedence, this method should of course apply to his names. Thus, Bastian has written us under date of March 22, 1904, "that it might be taken as certain that the species of each genus first described by me was to be considered as type of the genus, so far as I knew it. In only a few cases is there any room for doubt as to this." He then discusses the doubtful cases, and determines in every instance the first species as type, stating that this or that species "was regarded as the type" or "was taken as the type." Fortunately, therefore, Bastian's original intentions are now definitely known regarding the types of his genera, and we consider it obligatory to take his intentions in these cases, although in one instance we consider the selection unfortunate.

15. Sexually Mature Forms Take Precedence over Larval or Immature Forms.

RECOMMENDATION.—Species based upon sexually mature specimens should take precedence over species based upon larval or immature forms.

This recommendation needs no argument for helminthologists.

16. Preference to be Shown to Species Examined by Author of the Genus.

RECOMMENDATION.—All other things being equal, show preference to a species which the author of a genus actually studied at or before the time he proposed the genus.

In general, it is natural that an author should have a clearer idea of a species which he himself has studied than of one which he knows only from a description written by some one else. And as a rule it will be found that in proposing new genera an author has been influenced more by his actual acquaintance with the organisms themselves than by the description of animals which he has not seen. Although exceptions to this proposition are not unknown, an author's original
intentions will usually be better carried out if a species of his personal acquaintance is designated as type. If, however, it can be shown that an author had some other species more particularly in mind, it is better to select that form as type.

17. Preference to be Shown to Species Named communis, vulgaris, officinalis, or medicinalis.

RULE.—In case of Linnaean genera, select as type the most common, or a medicinal species.

RECOMMENDATION.—Show preference to a species bearing the name communis, vulgaris, medicinalis, or officinalis, unless such preference is strongly contraindicated by practical considerations.

Linnaeus (1751, 197) laid down the following rule: "Si genus receptum, secundum jus naturae et artis, in plura dirimi debet, tum nomen antea commune manebit vulgarissimae et officinali plante." This, so far as we know, is the earliest intimation of the general principle of fixing a particular species as type of a genus. It certainly clearly represents Linnaeus's intention regarding his own genera, and has the great advantage of rendering more stable the generic names used by nonzoologists. Just how far a rigid application of this rule, if applied regardless of contraindications of a practical nature, would work to the detriment of types accepted at present, it is difficult to state, but in dealing with Linnaean genera his rule should be followed when clearly applicable.

In connection with genera of all authors it seems distinctly best to show preference to species bearing the name communis, vulgaris, officinalis, or medicinalis, but it seems unwise to waive all other considerations in favor of this process of selection. Among the nematodes the species named communis are types for Filocapsularia, Desmodora, Cylindrolaimus, Diphtherophora, and Terschellingia, but not for Spilophora (in which it was not an original species); vulgaris, for Comesoma, Chromadora, Euchromadora, Graphonema, Lombrioides, and Tripyloides.

Tenia Linnaeus, 1758a, may be mentioned as a case where practical considerations at present distinctly contraindicate the selection of vulgaris as type of a Linnaean genus, but the selection of solium as type of Tenia does not seem to be contrary to the Linnaean rule.

18. The Best Described, Best Figured, Best Known, or Most Easily Obtainable Species.

RECOMMENDATION.—Other things being equal, select as type that species which is best described, or best figured, and for which both sexes are described, or a species which is best known, or most easily obtainable, or most common, or of which a type specimen can be obtained.

That the best-described species should frequently be given preference is a natural proposition, but an author should be governed by various considerations in this matter. It is, for instance, sometimes
advisable to give preference to the best figured form. Again, the best known species may be preferred under some circumstances. On the other hand, conditions may be present which would make it decidedly preferable to select as type a species which is the most common, and on this account preference is frequently shown to species bearing the specific name *communis* (see p. 64). To show preference to a species which is easily obtainable is undoubtedly a good policy to follow, for no matter how well a given animal is described the advance in anatomical knowledge may make it advisable that the species be restudied, and in this event the more easily obtainable the species is the better the opportunity for the necessary study. In some cases it may be distinctly preferable to select as type species some form of which the original type specimens are known to be in existence. In the case of animals with separate sexes, it will usually be distinctly better to select as type some species for which both sexes are known.

19. The Original Generic Name to Go with the Greater Number of Species.

**RECOMMENDATION.**—In dividing a genus containing a large number of species, it is well to select the type from the group which contains the largest number of species.

This recommendation is intended to preserve the old generic name, so far as possible, for as many original species as possible. It was proposed by De Condolle.

20. Special Points to be Considered in Connection with Genera of Parasitic Groups.

**RECOMMENDATION.**—In parasitic genera select, if possible, some species which occurs in a food animal or in man, or in some very common and widespread host.

The justice of this recommendation will probably appeal to all persons who seriously consider the various possibilities involved.

In the first place, if a given species is type of a genus, its name is less likely to be subjected to change than are the names of species which are not types. It would be well, therefore, to take advantage of this greater chance of stability in order to protect from changes the names of animals which are used by others besides zoologists. Thus, the parasites of man and of the domesticated animals come into consideration in the medical and legal writings of authors in human and comparative medicine and in meat inspection, and a change of name of animals or plants which come into consideration in such literature is of infinitely greater inconvenience and difficulty than is the case with a name occasionally used by only a few systematic helminthologists.

Again, if type species are selected from hosts which are common and of wide distribution, they can be more easily obtained for future study.

6328—No. 70—05—5
It is somewhat difficult to arrange hosts in an order of preference in respect to this point, but we may recognize the following groups as approximate, at least:

First series: Homo sapiens, Sus scrofa domestica, Mus musculus, Mus rattus, Mus decumanus, Bos taurus, Ovis aries, Gallus gallus, Musca domestica, Blatta, Phyllodromia.

Second series: Canis familiaris, Felis catus domestica, Equus caballus, Anas boschas, Anser cinereus, Culicidae.

Third series: Rana temporaria, R. esculenta, Bufo.

Fourth series: Animals found in Europe and North America.

Fifth series: Marine or Australian animals.

Sixth series: Animals found in Asia, Africa, or South America.

It is not contended that the above list is without criticism or that it may not be viewed from different standpoints, according to local conditions, but the general idea advanced will doubtless appeal to many workers in parasitology.


In the foregoing pages it has been shown that certain species must be taken as type for certain genera, and that certain other species may best be taken as type for certain other genera.

There now remain certain generic names, for some of which (for various reasons) we prefer not to definitely propose types at this time. We shall, however, indicate the species which might best serve as type unless contraindicated by some circumstance which does not occur to us at present. As these suggestions are made with reserve, the indication should not be construed as designation of type.

Acanthopharynx Marion, 1870; probably affinis, because both male and female are given.

Acanthophorus Linstow, 1876; probably tenuis by page precedence. As the generic name is a homonym, it can not hold, but the designation of a type might influence some later generic name.

Amblyura Hemprich & Ehrenberg, 1828; probably serpentinus, by page precedence, male and female mentioned, and more extensive mention than gordius.

Amphistoma Marion, 1870; ? agilis, by page precedence.

Anguillulina Gervais & van Beneden, 1859; probably tritici, page precedence; and on basis of Railliet, 1893a, 553.

Aorurus Leidy, 1849; ? agile, by page precedence.

Ascaridia Dujardin, 1845; ? truncata, by page precedence.

Calodium Dujardin, 1845; ? annulosum, because of its hosts (Mus rattus and M. decumanus); the rats had lived on onions (Allium cepa).

Cephalacanthus Diesing, 1853; probably monacanthus, by page precedence and because the host (Tenebrio molitor) is so common

Crenosoma Molin, 1861; probably striatum, by page precedence, and figured.

Crossophorus Hemprich & Ehrenberg, 1828; ? collaris, by page precedence.

Cucullanus Mueller, 1777; see pp. 96-97.

Cystoopsis, see p. 98.
Determination of Generic Types, Etc.

Dacnitis Dujardin, 1845; ? cauricus, by virtual autonymy, very common, and because of host; or? sphaerocephalus (Pleurorhynchus).

Diaphanocephalus Diesing, 1851; ? strongyloides, by page precedence, and because of single type host.

Dichelonema Diesing, 1861; ? labiatum, see p. 100.

Diptetalonema Diesing, 1861; probably caudipina, see p. 100.

Dorylaimus Dujardin, 1845; probably stagnalis, by page precedence, both sexes given.

Echinorhynchus Zega, 1776; ? gadi, by elimination and page precedence.

Enoplus Diesing, 1860; probably hirtum, by page precedence, very common, both sexes given.

Enoplosoma Marion, 1870; probably hirtum, by page precedence, partially by elimination, both sexes given.

Eudrotrichus Greeff, 1860; ? filiformis, by page precedence, or? phalacerus because of male.

Eucoleus Dujardin, 1845; probably xrophilum by page precedence, and description more complete; Dujardin apparently took this as his type.

Flaria Mueller, 1787; martis, by elimination.

Heraculus Pallas, 1760, 1768; see p. 110.

Helmins Schlotheuber, 1860; ? paradoxus, also by precedence, also because of dubius (see p. 29); probably not a valid generic name.

Heterodera Schmidt, 1871; not accessible to us.

Histiocephalus Diesing, 1851; ? laticaudatus, by page precedence.

Ichthyonema Diesing, 1861; probably globiceps, by page precedence, both sexes given.

Kurilepelphus Molin, 1861; probably inermis, by page precedence, only species figured.

Labyrinthostoma Cobb, 1898; species apparently not named.

Lincola Kolliker, 1845; probably sieboldii, by page precedence, and description slightly more complete.

Linguatula Schrank, 1796; probably bilinguis, by page precedence and elimination.

Liorhynchus Rudolphi, 1801; ? truncata by elimination, see p. 116.

Mastophorus Diesing, 1853; probably echius, because its host is so common.

Monopetalonema Diesing, 1861; ? physarum, by page precedence.

Needhamia Carus; not accessible to us.

Nematodimus Diesing, 1861; see p. 122.

Oncholaimus Dujardin, 1845; ? attenuatus, see p. 121.

Oxyzoma Schneider, 1866; probably brevicaudatum, by page precedence and because of host.

Phanoglene Nordmann, 1840; ? micans, by page precedence.

Pleurorinchus Nau, 1787; [sphaerocephala], see p. 130.

Polypodorus Schneider, 1868; apparently “P. lacteus.”

Polyporus Gruby, 1840; not accessible to us.

Pontonema Leidy, 1855; probably vacillatum, by page precedence, abundant.

Proboscidea Bruguier, 1791; see p. 131.

Solenonema Diesing, 1861; type?.

Spiromoura Leidy, 1856; ? gracile, by page precedence.

Spirura E. Blanchard, 1849; probably talpe, by page precedence and because of Blanchard’s apparent intentions; see p. 138.

Thraucostoma Marion, 1870; probably echinodon, by page precedence, most common.

Vibrio Mueller, 1773; type species very doubtful.

Correlated Nomenclatural Questions.

The discussion thus far has been based upon the subject of type species. During the preparation of the list, however, certain other nomenclatural questions have arisen which it may be well to mention briefly.
Cases like the following have given rise to difficulty among certain authors. Let it be assumed that the genus

\( X\text{-}us \), 1810, contains two species (without designation of type):
- \( albus \), 1810, and
- \( niger \), 1810; and let the genus

\( Y\text{-}us \), 1850, contain three species (without designation of type):
- \( albus \), 1810 = \( X\text{-} albus \),
- \( niger \), 1810 = \( X\text{-} niger \), and
- \( flavidus \), 1850.

Some authors have construed \( Y\text{-}us \), 1850, as direct synonym of \( X\text{-}us \) on the ground that it contains all of the original species of \( X\text{-}us \), hence it must contain the type of \( X\text{-}us \). Other authors have construed \( Y\text{-}us \) as being used in a broader sense than \( X\text{-}us \), have returned \( albus \) and \( niger \) to \( X\text{-}us \), and considered \( Y\text{-}us \) valid with \( flavidus \) as type. The rules here adopted (see p. 42) make \( Y\text{-}us \) a synonym pure and simple of \( X\text{-}us \), both genera containing the same type. This construction is entirely in accord with the spirit of the law of priority, for \( Y\text{-}us \) should never have been proposed. See also \( Spiroptera \) and \( Acuaria \), and §§ 6 to 8 of the B. A. Code, quoted on page 14.

As an instance of a case in which two opinions may be legitimately defended, mention may be made of the following:

Suppose an author examines certain animals and describes them under a new name, but at the same time mentions one or more earlier specific names as positive or doubtful synonyms, what is the relation of the new name used to the old names quoted in synonymy? Thus:

\( X\text{-}us \text{ } albus \), 1900, new name;
\( X\text{-}us \text{ } aureus \), 1800, given as positive synonym; and
\( ? \text{-} X\text{-}us \text{ } niger \), 1850, given as doubtful synonym.

Probably all nomenclaturists will admit that (1) if the author of \( albus \), 1900, did not examine specimens personally, then \( albus \) is simply \( aureus \) renamed, hence, \( albus \) is an absolute synonym of \( aureus \); (2) if the author of \( albus \) did examine specimens, and if these were actually identical specifically with \( aureus \), then, also, \( albus \) is an absolute synonym of \( aureus \).

If, however, the author of \( albus \) examined specimens, and later reexamination of these shows that all but 1, 2, 3, or 4 are identical specifically with \( aureus \), then what is the relation of \( albus \) to \( aureus \)?

Different views may be defended covering such cases.

(1) It might be maintained that since the author of \( albus \), 1900, admitted that this was synonymous with \( aureus \), the publication of \( albus \) was absolutely unjustified, and \( aureus \) should have been adopted. Against this proposition no just objection is evident to us.
(2) Let this error in publishing *albus* be admitted, but let it be assumed that all the specimens of *albus*, except one (or *x*), are specifically identical with or distinct from *aureus*, or let it be assumed that all of the specimens of *albus* are specifically distinct from *aureus*, is the status of *albus* not altered? Do not these specimens represent the types of *albus*, and should not *albus* be judged on its types?

(3) With the premises mentioned in (2), does not *albus* also include the original types of *aureus*, and does this case not, therefore, represent a name which covers an older type, hence, simply a new name unwarrantedly proposed?

Admitting that there are two sides to this question and that the position mentioned under (2) is not without certain justification, this seems to be a case of deciding between the lesser of two evils, and the lesser evil seems to be to rule that the newer name is a synonym of the older, as advanced in (1) and (3). Further, while this lesser evil, though at times it may seem Draconian, can be carried out consistently, the greater evil (2) can not be carried out consistently and it must constantly give rise to doubts as to the course to be pursued. Suppose, for instance, *albus* was based upon two specimens, a male and a female, and one of these is identical with *aureus*, while the other is distinct, what would be the status of *albus*?

Draconian as the position seems to be, we contend that in case an author unreservedly admits that an earlier name is synonymous with the name he publishes as new, the latter is a "synonym by original publication," even if part or all the specimens the author of the new name examined are specifically distinct from the specimens upon which the older name was based.

23. Rule of Homonyms.

A homonym may be defined as one and the same name used for two or more different systematic units of the same rank. All recognized codes agree that only the first use of such name can be admitted as legitimate. The second and later uses of the name, for other units of the same rank, are cases of stillbirth, and the name, as used in these later cases, is forever dead.

In the case of absolute homonyms, it is not usually a matter of great importance whether the type is fixed or not. Nevertheless, it seems advisable as a rule to designate such. Under some circumstances the fixing of a type for a homonym may determine the type for a valid name.
The cases of absolute homonyms (namely, absolutely identical combinations of the same letters) found in roundworm generic names may be seen from the following tables:

Roundworm\(^1\) generic names which are absolutely preoccupied.

<table>
<thead>
<tr>
<th>Roundworm genus</th>
<th>Preoccupied as follows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acanthophorus Linstow, 1876</td>
<td>Serv., 1832, coleopteron.</td>
</tr>
<tr>
<td>Acanthosoma Mayer, 1841</td>
<td>Curt., 1824, hemipteron; DeK., 1842, fish.</td>
</tr>
<tr>
<td>Arhynechus Shipley, 1896</td>
<td>Dejean, 1834, coleopteron.</td>
</tr>
<tr>
<td>Aspidiocepalus Diesing, 1851</td>
<td>Motsch, 1839, coleopteron.</td>
</tr>
<tr>
<td>Brachymena Cobb, 1893</td>
<td>Fieb., 1861, hemipteron.</td>
</tr>
<tr>
<td>Cephalacanthus Diesing, 1853</td>
<td>DeK., 1842, fish.</td>
</tr>
<tr>
<td>Cephalonema Cobb, 1893</td>
<td>Stimps., ante 1882, worm.</td>
</tr>
<tr>
<td>Cheiracanthus Diesing, 1838</td>
<td>Agassiz, 1833, fish.</td>
</tr>
<tr>
<td>Cochins Zeder, 1803</td>
<td>Humph., 1797, mollusk.</td>
</tr>
<tr>
<td>Conocephalus Diesing, 1896</td>
<td>Dejean, 1834, coleopteron.</td>
</tr>
<tr>
<td>Dipeltis Cobb, 1891</td>
<td>Packard, 1885, crustacean.</td>
</tr>
<tr>
<td>Discophora Villot, 1875</td>
<td>Boisduval, 1836, lepidopteron.</td>
</tr>
<tr>
<td>Eucamptus Dujardin, 1845</td>
<td>Chevr., 1833, coleopteron; Dej., 1833, coleopteron.</td>
</tr>
<tr>
<td>Eurystoma Marion, 1870</td>
<td>Rafinesque, 1818, mollusk; Kœll., 1853, coleopteron.</td>
</tr>
<tr>
<td>Fimbria Cobb, 1894</td>
<td>Bohadsch., 1761, mollusk; Meg., 1811, mollusk; Risso, 1826, mollusk.</td>
</tr>
<tr>
<td>Hoplocephalus Linstow, 1898</td>
<td>Hoplocephalus Cuvier, 1829, reptile; Oplocephalus for Hoplocephalus.</td>
</tr>
<tr>
<td>Lepidoderes Dujardin, 1845</td>
<td>Serv., 1839, orthopteron.</td>
</tr>
<tr>
<td>Litosoma van Beneden, 1873</td>
<td>Douglas &amp; Scott, 1865, hemipteron.</td>
</tr>
<tr>
<td>Mitrephorus Linstow, 1877</td>
<td>Schœnherr, 1837, coleopteron; Sclater, 1859, bird.</td>
</tr>
<tr>
<td>Neorhynchus Hamann, 1892</td>
<td>Sclater, 1869, bird; Milne-Edwards, 1879, crustacean.</td>
</tr>
<tr>
<td>Oxyurus Schneider, 1866</td>
<td>Gervais, 1849, arachnoid; Kraatz, 1865, coleopteron.</td>
</tr>
<tr>
<td>Oxystoma Buetschli, 1874</td>
<td>Duménil, 1806, coleopteron.</td>
</tr>
<tr>
<td>Oxystoma Lamarck, 1816</td>
<td>Rafinesque, 1810, fish; Swains., 1827, bird.</td>
</tr>
<tr>
<td>Paradoxites Lindemann, 1865</td>
<td>Goldf., 1843, crustacean.</td>
</tr>
<tr>
<td>Paragordius Montgomery, 1898</td>
<td>equals Paragordius Camerano, 1897.</td>
</tr>
<tr>
<td>Pelodytes Schneider, 1880</td>
<td>Fitz., ante 1846, or Gistl., 1848, reptile.</td>
</tr>
<tr>
<td>Pteroecephalus Linstow, 1899</td>
<td>Schneider, 1887, protozoan.</td>
</tr>
<tr>
<td>Ptychocephalus Diesing, 1861</td>
<td>Agassiz, 1843, fish.</td>
</tr>
<tr>
<td>Rhabdogaster Metschnikoff, 1867</td>
<td>Loew., 1858, dipteron.</td>
</tr>
<tr>
<td>Rhadonema Leuckart, 1883</td>
<td>Kuetzing, 1844, polygastrica.</td>
</tr>
<tr>
<td>Rhadonema Perroncito, 1886</td>
<td>Leuckart, 1883, nematode; Kuetzing, 1844, polygastrica.</td>
</tr>
</tbody>
</table>

\(^1\) See also p. 11 for explanation of insertion of other than nematode genera.
DETERMINATION OF GENERIC TYPES, ETC.  

**Roundworm genus.**  

<table>
<thead>
<tr>
<th>Name</th>
<th>Author and Year</th>
<th>Preoccupied by</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Rhytis</em> Mayer, 1835</td>
<td>Zeder, 1803</td>
<td>worm</td>
</tr>
<tr>
<td><em>Spilophora</em> Bastian, 1865</td>
<td>Bohem., 1890</td>
<td>coleopteron</td>
</tr>
<tr>
<td><em>Spinifer</em> Linstow, 1901</td>
<td>Rafinesque, 1831</td>
<td>mollusk</td>
</tr>
<tr>
<td><em>Spira</em> Bastian, 1865</td>
<td>Brown, 1838</td>
<td>mollusk</td>
</tr>
<tr>
<td><em>Spirura</em> Diesing, 1861</td>
<td>E. Blanchard, 1849</td>
<td>nematode</td>
</tr>
<tr>
<td>?<em>Stenodes</em> Dujardin, 1845</td>
<td>Guen., 1845</td>
<td>lepidopteron</td>
</tr>
<tr>
<td><em>Trichina</em> Owen, 1835</td>
<td>Meig., 1830</td>
<td>dipteran</td>
</tr>
<tr>
<td><em>Trichoderma</em> Greef, 1899</td>
<td>Steph., 1839</td>
<td>coleopteron;</td>
</tr>
<tr>
<td></td>
<td>Swains., 1839</td>
<td>fish</td>
</tr>
<tr>
<td><em>Trichodes</em> Linstow, 1874</td>
<td>Herbst, 1792</td>
<td>coleopteron</td>
</tr>
<tr>
<td><em>Triodontus</em> Looss, 1900</td>
<td>Westwood, 1845</td>
<td>coleopteron</td>
</tr>
<tr>
<td><em>Tropidurus</em> Wiegmann, 1835</td>
<td>Neuwied, 1824</td>
<td>reptile</td>
</tr>
<tr>
<td><em>Tropisurus</em> Diesing, 1835</td>
<td>Neuwied, 1824</td>
<td>lizard</td>
</tr>
</tbody>
</table>

**Roundworm generic names which absolutely preoccupy other names.**  

<table>
<thead>
<tr>
<th>Name</th>
<th>Author and Year</th>
<th>Proposed by</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acanthocephalus</em> Koelreuter, 1771</td>
<td>Lap., 1833</td>
<td>hemipteron</td>
</tr>
<tr>
<td><em>Allodapa</em> Diesing, 1861</td>
<td>Brunn, 1878</td>
<td>orthopteron</td>
</tr>
<tr>
<td><em>Anguillula</em> Mueller, 1786</td>
<td>Hemprich &amp; Ehrenberg, 1828, nematode.</td>
<td></td>
</tr>
<tr>
<td><em>Autoplectus</em> Balsamo-Crivelli, 1843</td>
<td>Raffray, 1883</td>
<td>insect</td>
</tr>
<tr>
<td><em>Capillaria</em> Zeder, 1800</td>
<td>Haworth, 1828</td>
<td>lepidopteron</td>
</tr>
<tr>
<td><em>Capsularia</em> Zeder, 1800</td>
<td>Oken, 1815</td>
<td>coleopteron</td>
</tr>
<tr>
<td><em>Crino</em> Lamarck, 1801</td>
<td>Huebn., 1816</td>
<td>lepidopteron; Gistl., 1848, mollusk.</td>
</tr>
<tr>
<td><em>Dicelis</em> Dujardin, 1845</td>
<td>Stimps., 1857</td>
<td>worm</td>
</tr>
<tr>
<td><em>Diplogaster</em> Max Schultze, 1857</td>
<td>Bigot, 1886</td>
<td>insect</td>
</tr>
<tr>
<td><em>Echinoccephalus</em> Molin, 1858</td>
<td>Schneider, 1875</td>
<td>protozoon</td>
</tr>
<tr>
<td><em>Elaphocephalm</em> Molin, 1860</td>
<td>Macleay, 1878</td>
<td>reptile</td>
</tr>
<tr>
<td><em>Enoplus</em> Dujardin, 1845</td>
<td>Reiche, 1859</td>
<td>coleopteron; Agassiz, 1846, fish.</td>
</tr>
<tr>
<td><em>Fimbria</em> Cobb, 1894</td>
<td>Belon, 1896</td>
<td>insect</td>
</tr>
<tr>
<td><em>Furia</em> Linneus, 1758</td>
<td>Cuvier, 1828</td>
<td>mammal</td>
</tr>
<tr>
<td><em>Heligmus</em> Dujardin, 1845</td>
<td>Cand., 1864</td>
<td>coleopteron</td>
</tr>
<tr>
<td><em>Laphyctes</em> Dujardin, 1845</td>
<td>Reichenbach, 1850, bird; Stål, 1853, hemipteron; Fèrst., 1878, hymenopteron.</td>
<td></td>
</tr>
<tr>
<td><em>Liniscus</em> Dujardin, 1845</td>
<td>Lefèvre, 1885</td>
<td>insect; Haeckel, 1880, coelenterate.</td>
</tr>
<tr>
<td><em>Lobocephalus</em> Diesing, 1838</td>
<td>Kramer, 1898</td>
<td>arachnoid</td>
</tr>
<tr>
<td><em>Paragordius</em> Camerano, 1897</td>
<td>equals <em>Paragordius</em> Montgomery, 1898.</td>
<td></td>
</tr>
<tr>
<td><em>Pharyngodon</em> Diesing, 1861</td>
<td>Cope, 1865</td>
<td>reptile</td>
</tr>
<tr>
<td><em>Plectus</em> Bastian, 1865</td>
<td>Scudder, 1882 [possibly earlier], coleopteron, for <em>Plectris</em>, 1825.</td>
<td></td>
</tr>
<tr>
<td>?<em>Proboscidea</em> &quot;Bruguier, 1791&quot;' [see p.131].</td>
<td>Les., 18 —, worm; Spix, 1823, mammal; Schmidt, 1832, mollusk; Trosch., 1848, mollusk.</td>
<td></td>
</tr>
<tr>
<td><em>Rhabdonema</em> Leuckart, 1883</td>
<td>Perroncito, 1886</td>
<td>nematode</td>
</tr>
<tr>
<td><em>Spirura</em> E. Blanchard, 1849</td>
<td>Diesing, 1861</td>
<td>nematode</td>
</tr>
<tr>
<td><em>Strongylus</em> Mueller, &quot;1780,&quot; 1784</td>
<td><em>Strongylus</em> Herbst, 1792, coleopteron; <em>Strongylus</em>, ? date, for <em>Stroggulus</em>; Motsch, 1845, coleopteron.</td>
<td></td>
</tr>
<tr>
<td><em>Tetrameres</em> Creplin, 1846</td>
<td>Schaufuss, 1877</td>
<td>coleopteron.</td>
</tr>
</tbody>
</table>

---

1 We have not determined the relative date of these two publications.
Roundworm genus.  Absolutely preoccupies the identical name proposed by.

Trichoderma Greel, 1869 .................. Nonfried, 1894, insect.
Trichoneema Cobbold, 1874 ............... Fromentel, 1875, protozoon.
Trichosoma Rudolphi, 1819 ............... Boisd., 1834, lepidopteron; Swains., 1839, fish.

Uncinaria Fredich, 1789 .................. Vest., 1867, mollusk.
Uracanthus Diesing, 1861 ............... Fitzinger, 1865, bird.

There are but few authors who reject the Rule of Homonyms for absolute homonyms. Among living helminthologists, only one seems to have declared himself against it. In 1898, von Linstow proposed the name Hoplocephalus, and changed it the same year to Echinonerna because Hoplocephalus was preoccupied in reptiles, 1829. Later, however, in 1899, he objected to the rejection of Trichina Owen, 1835 [not Meig., 1830, dipteron]. Von Linstow's position was that a genus of nematodes is not likely to be confused with a genus of diptera; hence, Trichina Owen, 1835, can safely be adopted. Consistency would compel him to admit as available such cases as: Conocephalus Diesing, 1861 (nematode), Conocephalus Thunb., 1812 (orthopteron), Conocephalus Zenk., 1833 (crustacean), and Conocephalus Dum., 1835 (reptile); or Laphyctes Dujardin, 1845 (nematode), Laphyctes Reichenbach, 1850 (bird), Laphyctes Stål, 1853 (hemipteron), and Laphyctes Fcierst., 1878 (hymenopteron).

24. Phononyms.

While von Linstow seems to stand practically alone among helminthologists in regard to accepting absolute homonyms, there is a legitimate difference of opinion among systematists as to whether two combinations of letters must be absolutely identical in order to be homonyms. Thus the "Merton Rules" provide for the rejection of phononyms.

As some author, in discussing the Merton Rules, has already pointed out, while generic names as pronounced by a person of one nationality may be more or less phononymous, the same name pronounced by a person of another nationality may have a very different sound. The Merton Rule of phononyms does not therefore appear to be necessary.

Among roundworm genera the following names may be mentioned as more or less phononymous:

Roundworm genus.  Phononyms.

Acanthrus Acharius, 1780 .................. Acanthurus Eichoff, 1886, insect.
Acrobeles Linstow, 1877 .................. Acrobele Fcierster, 1882, hymenopteron;
........................................ Acrobeles Stål, 1889, hemipteron.
Amphistenus Marion, 1870 .................. Amphistenus Germ., 1843, coleopteron.
Enoplus Dujardin, 1845 .................. Anoplus Schoenh., 1826, coleopteron; Gray,
........................................ 1840, reptile; Schl., 1842, fish.
Eurystoma Marion, 1870 .................. Eurystoma Gistl., 1829, coleopteron; Koch,
........................................ 1840, arachnoid.
........................................ Eurystomus Young, 1866, fish.
### Determination of Generic Types, etc.

**Roundworm genus.**

<table>
<thead>
<tr>
<th>Name</th>
<th>Phononyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fimbria Cobb, 1894c</td>
<td>Fimbriaria Frélich, 1795, cestode.</td>
</tr>
<tr>
<td>Gezia Zeder, 1800</td>
<td>Gezia Boeck, 1871, crustacean; Gezia Karsch, 1892, insect.</td>
</tr>
<tr>
<td>Microstomus de Man, 1880</td>
<td>Microstomia Bates, 1874, coleopteron.</td>
</tr>
<tr>
<td>Streptostoma Leidy, 1849</td>
<td>Streptostoma Guér., 1862, coleopteron.</td>
</tr>
<tr>
<td>Tribactis Dujardin, 1845</td>
<td>Tribacis Billb., 1820, lepidopteron.</td>
</tr>
</tbody>
</table>

#### Doubtful Homonyms.

The following generic names mentioned in this paper are very similar to, but not identical with, other generic names. Opinion differs in regard to their validity:

<table>
<thead>
<tr>
<th>Roundworm genus.</th>
<th>Doubtful homonyms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acanthocheilus Molin, 1858</td>
<td>Acanthocheila Stål, 1860, hemipteron.</td>
</tr>
<tr>
<td>Allodapa Diesing, 1861a</td>
<td>Allodipe Lep., Serv., 1825, hymenopteron.</td>
</tr>
<tr>
<td>Angiostrongylus Dujardin, 1845a</td>
<td>Angiostrongly Schumacher, 1817, for.</td>
</tr>
<tr>
<td>Arhynchus Shipley, 1896</td>
<td>Arrhynchus Philippi, 1871, insect.</td>
</tr>
<tr>
<td>Asconema Leuckart, 1886</td>
<td>Askonema Kent, 1870, sponge.</td>
</tr>
<tr>
<td>Capillaria Zeder, 1800a</td>
<td>Capillaria Giebel, 1848.</td>
</tr>
<tr>
<td>Chromagaster Cobb, 1894c</td>
<td>Chromagaster Lautborn, 1893, worm.</td>
</tr>
<tr>
<td>Cosmocephalus Molin, 1858</td>
<td>Cosmocephalus Stimpson, 1857, worm.</td>
</tr>
<tr>
<td>Cyathostoma E. Blanchard, 1849a</td>
<td>Cyathostomum Molin, 1861.</td>
</tr>
<tr>
<td>Dactylius Curling, 1839a</td>
<td>Dactylius Megerle, ? date, mollusk.</td>
</tr>
<tr>
<td>Diploodon Molin, 1861</td>
<td>Diploodon Spix, 1827, mollusk; Nitzsch, 1840, bird.</td>
</tr>
<tr>
<td>Enoplus Dujardin, 1845</td>
<td>Enoplus Lacép., 1802, fish; changed to Enoplus Agassiz, 1846.</td>
</tr>
<tr>
<td>Eucoleus Dujardin, 1845</td>
<td>Eucoleus Muls., 1853, coleopteron.</td>
</tr>
<tr>
<td>Globocephalus Molin, 1861</td>
<td>Globocephalus Lesson, 1828, mammal.</td>
</tr>
<tr>
<td>Heligmus Dujardin, 1845</td>
<td>Elyma Huebn., 1816, lepidopteron, changed to Heligma.</td>
</tr>
<tr>
<td>Heterocheilus Diesing, 1839</td>
<td>Heterocheila Rond., 1857, dipteran.</td>
</tr>
<tr>
<td>Heterodera Schmidt, 1871</td>
<td>Heterochilus, ? date, for Heterocelis Lioy., 1864, dipteran.</td>
</tr>
<tr>
<td>Hoplocephalus Linstow, 1898</td>
<td>Oplcepalus Cuvier, 1829, reptile.</td>
</tr>
</tbody>
</table>

25. **Doubtful Homonyms.**

The following generic names mentioned in this paper are very similar to, but not identical with, other generic names. Opinion differs in regard to their validity:
Roundworm genus. Doubtful homonyms.

_Hoplocephalus_ Linstow, 1898

*Oplocephala* Lap., 1831, coleopteron.

*Hoplocephala* (v. *Heplacephala, Oplocephala*).

_Ironus_ Bastian, 1865

_Irona_ Schiodte, 1883, crustacean.

_Isakis_ Lespes, 1856, changed to

 Isis Bates, 1872, coleopteron.

_Isacis_ Linstow, 1898

_Isaca_ Walker, 1857, hemipteron.

_Labidurus_ Schneider, 1866

_Labidura_ Leach, 1817, orthopteron.

_Laphyctes_ Dujardin, 1845

_Laphyctis_ Loew., 1859, dipteron.

_Lecanocephalus_ Diesing, 1839

_Lecanicephalum_ Linton, 1891, cestode.

_IsaTcis_ Lespes, 1856, changed to

_Isacus_ Cope, 1873, mammal.

_Isacis_ Diesing, 1861

_Isacus_ Cope, 1873, mammal.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.

_Ironm_ Bastian, 1865

_Irona_ Schioedte, 1883, crustacean.

_Irioneus_ Bates, 1872, coleopteron.
DETERMINATION OF GENERIC TYPES, ETC. 75

Roundworm genus.  Doubtful homonyms.

Plectus Bastian, 1865  Plectus by Scudder, 1882, p. 269, possibly earlier.

?Polyphorus Gruby, 1840  Polyphora M'Coy, 1844, pol.; Mosel, 1876, coelenterate.

Proboscidea “Bruguière, 1791”  Proboscidia Bory, 1824, rotifer.

Proleptus Dujardin, 1845  Prolepta Walk., 1851, hemipteron.

Pterocephalus Linstow, 1899  Pterocephala Swains., 1839, fish.

Rhabditis Dujardin, 1845  Rhabditis Haan, 1825, mollusk.

Spilophora Bastian, 1865  Spilophora Bohem., 1850, coleopteron.

Spilophora, Bastian, 1865  Spilophorus Lac., 1856, coleopteron.

Spironoura Leidy, 1856  Spironura E. Blanchard, 1849, nematode.

Stenurus Dujardin, 1845  Stenura Dejean, 1834, coleopteron.


Synonchus Cobb, 1894  Synoncha Chevolat, 1833, coleopteron.

Trichina Owen, 1835  Trichiinia Bischo., ? date, worm.

Trichodes Linstow, 1874  Trychinea Klug., ? date, for

Trichosoma Rudolphi, 1819  Trychinea Klug., ? date, coleopteron.

Trichotis Felder, 1874  Trichotis Felder, 1874, lepidopteron.

Trichota Huebner, 1806, lepidopteron.

Trichosomum Swains., 1839, fish; Chevor-

Trichurus Röederer & Wagler, 1761, 1762  lat., ? 1881, coleopteron.

Trichura Wagner, 1843, for

Trychotis Felder, 1874, lepidopteron.

Trychota Huebner., 1816, lepidopteron.

Trichotus Linnaeus, 1758, fish.

Trichura Steph., 1829, lepidopteron.

Tricoma Walk., 1865, lepidopteron.

Trychurus Röederer & Wagler, 1761, 1762.

Trychotis Felder, 1874, lepidopteron.

Tricoma Walk., 1865, lepidopteron.

Tricophthalmus Diesing, 1861.  Tricophthalmus Phil., 1845, echinoderm.

Uracanthus Diesing, 1861.  Uracanthus Hope, ante 1846, coleopteron.

Judging from published opinions, Braun, Looss, and many other authors would probably construe most of these names under the Rule of Homonyms. One of the points advanced in favor of so doing is that these names, if used as basis for family and subfamily names, might give rise to homonyms in groups higher than genera. This point hardly appears to be so important as might at first seem, for it is the exception rather than the rule that a family has but one genus, and if it has two genera, and one of its generic names is a doubtful homonym, the other generic name could be used as basis for the family and subfamily names.

Judging from von Linstow’s position on absolute homonyms, he would doubtless accept doubtful homonyms as available. Jordan, Everman, Ashmead, and a number of other authors, including ourselves, accept names of this class on the ground that a difference of a single letter in two names precludes the possibility of their being identical, hence they can not be homonyms. (See Art. 36, Internat. Code.)
The question relative to the necessity of emending names which were not originally published in accordance with the usages of classical orthography is one upon which there has been very great difference of opinion. Personally we have contended that *classical* Latin in nomenclature is a *desideratum*, but of really relatively secondary importance, and further (unfortunately) an impractical proposition; on this account we have contended, in common with Jordan, Everman, Ashmead, and a number of other zoologists, for the adoption of the originally published orthography, be it good, bad, or indifferent, and proposing that all names that are incorrectly written should be construed under Article 8k, of the International Code, as "arbitrary combinations of letters."

The International Congress of Zoology, held in Berlin, Germany, in 1901, decided in favor of emendation, hence, emendation is to-day called for by the International Code. (See Article 19.)

It is not desired to reopen the question at this time, but attention may be directed to certain work which should be undertaken before emendation is put into practice.

It has been those authors who have argued in favor of the law of priority who have undertaken that extensive pioneer work which has made the carrying out of that law possible. Many authors who argued against it have adopted the law of priority in cases where they could do so without too much extra study, or where other men have worked out its application to certain groups. In this same spirit those authors who feel that emendation is an impractical proposition can justly look to their colleagues who think the rule practical to demonstrate its practicability by assuming the necessary burden of pioneer work in collating all the data which are prerequisite to an application of the rule in such a way as not to result in constant instability.

One of these prerequisites is a list of generic names which contains not only all generic and subgeneric names thus far proposed, but also all the variations in orthography of said names (to determine how many of these variations vitiate otherwise valid names by homonymy), and also the authoritatively correct orthography of all these words. To start in on emendation without such a list would be to take a leap in the dark, not knowing what may happen or where we may finally land. We favor the principle of majority rule, but in this case we belong to the conservative minority.

As a small contribution to this list, we are endeavoring gradually to collect all the names and variations found in the groups in which we are especially interested.

As soon as such a list demonstrates the feasible application of the rule, and places authors in a position so that it can be enforced, we
believe that all of us who have opposed its adoption should by all means follow the orthography agreed upon by the supporters of the rule. Until such a list and such a demonstration exists, or until there is at least an agreement upon the most common names and also an agreement as to what are homonyms, we find ourselves forced (much against our will) to continue to use original orthography.

As interesting examples of certain cases which will arise in the preparation of such a list1 as is here suggested we will mention the following nematode genera:

The hymenopteron genus *Alldape*, 1825, seems to have been changed to *Alloleopas* by Fieb., 1861. What influence has this upon *Alldape* Diesing, 1861? This case brings up the question as to whether words like *Distomus*, *Distoma*, and *Distomum* represent homonyms. (See Internat. Code, Art. 36.)

The Pre-Linnean generic name *Angystoma* Klein, 1753, later Schmacher, 1817, was changed by Agassiz, 1846, to *Angiostoma*. What effect does this have upon *Angiostoma* Dujardin, 1845?

*Chromagaster* Cobb, 1894, was changed to *Chromogaster* by Waterhouse, 1902. How is this influenced by *Chromogaster* Lauterborn, 1893?

*Diplolaimus* Linstow, 1876, was changed to *Diplolæmus*, see Scudder, 1884. How is this influenced by *Diplolæmus* Bell, 1843?

There is a lepidopteron genus *Eligma* Huebn., 1816, changed to *Heligma* by ?, date ?. What is the status of *Heligma*, 1845?

There is a fish genus *Enoplus* Lacep., 1832, which does not seem liable to be confused with the nematode genus *Enoplus* Dujardin, 1845. In 1846, Agassiz emended *Enoplus*, 1832, to *Enoplus*, which is certainly an absolute homonym of *Enoplus*, 1845. What is the status of *Enoplus*, 1832, and *Enoplus*, 1845?

Compare *Heterocheilus* Diesing, 1839, with *Heterocheilus* Burmeister, 1844, coleopteron, and *Heterocheila* Rond., 1857, dipteran (also *Heterocheilus*); *Heterocheila* Lioy., 1864, dipteran (also *Heterocheila*).

Compare *Hoplocephalus* Linstow, 1898, with *Hoplocephalus* and *Opolecephalus* Cuvier, 1829, reptile; *Hoplocephala* Macq., 1845, dipteran; *Opolecephala* Walker, 1857, dipteran; *Opolecephala* Lap., 1831, coleopteron; *Hoplocephala* (v. *Opolecephala* and *Heplacephala*).

*Isakis* Lespès, 1856, was proposed for a genus of worms; it appears to have been changed to *Isacis* by Diesing, 1861; it is given by the Zool. Rec. (1896), 1897, as *Isacus*. Now, there exists *Isacis* and *Isacus* Cope, 1873, mammal. What effect does *Isakis*, 1856, have upon *Isacus*, 1873, and would the effect be the same if *Isacus* had not been used by Zool. Rec., 1897?

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1 See also Cockerell, 1905. The letter "k" in zoological nomenclature < Science, N. Y., n. s. (561), v. 22, Sept. 29, 399-400.
There is a coleopteron genus *Mitrephorus*, 1837, and a bird genus *Mitrephorus*, 1859. What is the status of *Mitrephoros* von Linstow, 1877, altered form of *Mitrephorus*, 1877?

*Oxyurus* Rudolphi, 1803, was altered to *Oxyurus* by Lamarck, 1816. What effect does this have upon *Oxyurus* Raf., 1810 (fish)?

*Spironoura* Leidy, 1856, was apparently emended by Diesing, 1861, to *Spirura*. There already existed a *Spirura* Blanchard, 1849, hence, the emended form *Spirura*, 1861, is excluded since it is a homonym. *Spironoura*, 1856, is sufficiently distinct from *Spirura*, 1849, as not to be confused. What is the status of *Spironoura*, 1856? Is it a homonym of *Spirura*, 1849?

27. Nomenclatural Status of Misprints.

Criticisms have been raised because some authors include a citation of typographic errors in synonymy. Misprints seem to have a very definite nomenclatural status, however, and are therefore subject to citation and should be listed. In the first place it is often difficult to distinguish clearly between misprints and emendations, and cases are not unknown (*Dermacentor—Dermacenter, Hymenolepis—Hymenolepsis*, etc.), where a misprint has been adopted by several authors under the supposition that they were using the correct name. Further, the International Code provides for the admission of arbitrary combinations of letters as available scientific names. Such a name would naturally be a homonym if the same combination of letters had occurred as a misprint.


There still remain a few zoologists who do not follow the law of priority, and some men seem to be under the impression that this law is a more or less recent idea. It is, however, not a new idea, but seems to have been first proposed by Linnaeus, although he did not follow it out consistently. In helminthology it was adopted by Rudolphi, 1801, but he did not apply it consistently.


The fact that Rudolphi (1801, 62–65) published a set of rules on nomenclature seems to have been more or less generally overlooked. As they are of importance in interpreting his names, and as his code is very short, the rules are here reprinted for the benefit of helminthologists who do not have access to them. It will be seen that in 1801 Rudolphi declared in favor of the law of priority, although he did not adhere strictly to it in later years.

1. Ein schon gebräuchlicher Name muss, wenn er irgend erträglich ist, und nicht geradezu auf etwas falsches hindeutet, beibehalten werden. Ich lasse daher die Namen Ascaris, Trichocephalus, Festucaria, Fasciola, Linguatula, Tenia stehen, die Zedern mit neuen vertauscht hat, obgleich einige dieser neuen Namen wirklich gut sind. Man muss ja ungeachtet dieser neuen Benennungen, die alten doch auch behalten, und in der Folge liessen sich vielleicht wieder bessere finden, so dass des Namenwechsels kein Ende wäre. Wie schwer hält es nicht, die praktischen Ärzte dahin zu bewegen, den wirklich falschen Namen Trichurus oder Ascaris trichiura mit Trichocephalus zu vertauschen; sollten sie nun gar die Namen Tentia, Ascaris u. s. w. verändern, das würde ihnen sehr schwer ankommen, und ist auch überflüssig.

2. Wenn wir die Würmer in gewisse Familien bringen, so müssen diese Familien freilich einen Namen haben, allein dazu können wir den Namen einer hervorstechenden Gattung im Pluralis gebrauchen, wie wir dies z. B. häufig bei den natürlichen Ordnungen der Pflanzen thun; es ist also darum nicht nöthig, einenGattungsnamen zum Familiennamen zu erheben, und der Gattung selbst einen neuen Namen zu geben, so können die Rundwürmer im Allgemeinen Ascarides genannt werden, und die Gattung Ascaris behält ihren Namen dessen ungeachtet.


5. Der Name Wurm lässt sich im deutschen Gattungsnamen anbringen, allein in einem systematischen lateinischen oder griechischen Namen passt er nicht; da heisst die Klasse Wurm, und bei der Gattung sagt es nichts, wenn ich es hier auch gebrauche, z. B. Rytelminthus, Alyelminthus.

6. Eben so wenig muss der Gattungsname auf etwas zielen, was der ganzen Klasse zukommt; wenn daher die Würmer im Allgemeinen (ob es gleich Ausnahmen giebt) tentacula zu einem Charakter haben, darf ich keine Wurm-gattung Tentacularia nennen, so wie ich auch keine Insektengattung Antennaria nennen würde.


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1 Goze (Naturgeschichte der Eingewe. S. 421) führt an, dass Steller in der Schwimmblase des Salmon Eperlanus Würmer gefunden habe, die G. zum Fischbandwurm bringen mög resident.
9. Die Namen, die sich auf *aria* endigen, taugen freilich nicht viel, indess sind sie schon sehr gebräuchlich, die aus *odes* aber nicht; daher nicht *Mastigodes*.

10. Wollen wir den Entomologen ihre Namen lassen, sie aber auch dafür bitten, uns nicht die unserigen, wie z. B. *Strongylus*, zu nehmen. 

Dieser in Rücksicht der Gattungsnamen. In Ansehung der Trivialnamen habe ich folgendes zu bemerken: Es hält allerdings schwer diese immer gut zu wählen, indess werden sich doch immer dergleichen finden lassen, wenn man auf die Form im Ganzen, oder auf die hervorstehende Gestalt einzelner Theile sieht. Von den Thieren, in denen sie gefunden sind, müssen die Würmer durchaus nicht benannt werden, da sich ein und derselbe Wurm oft in mehreren Arten oder sogar Gattungen von Thieren zeigt; alle so beschaffene Namen müssen daher geändert werden. Von Schriftstellern darf der Trivialname auch wohl nicht entlehnt werden, da dies immer bei den Würmern sonderbar klingt, besonders da es sonst üblich war, die Würmer nach dem Thier, worin sie sich fanden, zu benennen.

30. POLYNOMIAL AUTHORS BETWEEN 1758 AND 1819.

It is often difficult to decide whether or not a given paper should be rejected because of its not being strictly binomial in its nomenclature. These papers which are in doubt not infrequently give rise to considerable trouble in nomenclatural matters, and not a few cases of nomenclature could be solved more easily if the publications in question were to be ruled out of consideration entirely. On account of the difficulty in obtaining an agreement upon the matter, it might possibly be feasible to appoint a committee which should list the papers between 1758 and 1819 which are not entitled to citation in synonymy or to consideration in connection with the Law of Priority.

Of such papers which contain nematode genera, the following may be mentioned as not entitled to any nomenclatural consideration: Pallas (1760, 1768), Pereboom (1780), Fischer (1788b, 1789a), and Werner (1786).

As papers in connection with which authors will be more likely to differ in opinion may be mentioned: Bloch (1780a, 1782a) and Geeze (1782a).
PART II.—LIST OF GENERIC NAMES, CHIEFLY NEMATODES, WITH THEIR ORIGINAL AND TYPE SPECIES.

The following list includes all of the nematode genera (both free-living and parasitic) which we have been able to find recorded. It also includes all of the species which come into consideration in determining the type species of the genera in question. With a few exceptions (in cases of type by original designation) all of the original species are given under each genus, and under these species cross references are given to the various genera in which they have been placed.

For various reasons it has not been found feasible to confine the list entirely to the nematodes; accordingly, occasional references will be found to genera of other groups.

**abbreviata** Rudolphi, 1819a, 30, 257–258.

1819: *Physaloptera*.

**abbreviatus** Rudolphi, 1819a, 21, 234–235.

1819: *Cacullanus*. 1845: *Dacnites*.

**abbreviatus** Villot, 1874, Jan., 57.

1874: *Gordius*. 1897: *Parachordodes*.

*Acanthocephala* Rudolphi, 1808a, 198. Ordinal name.

*Acanthocephali* Burmeister, 1837a, 527. Family name.

*Acanthocephalos* Goeze, 1782a, 141; for *Acanthocephalus*.

*Acanthocephalus* Kölreuter 1771a, 499–500, 503, pl. 26, figs. 5, a–d. Type *Echinorhynchus anguillae* Mueller, designated by Luehe, 1905, 329.

[Not *Acanthocephalus* Lap., 1833, hemipteron.]

Kölreuter gives no specific name, but the parasite in question is clearly a thornheaded worm reported for *Cyprinus rutilus*, adhering to the intestinal wall. See also *Echinorhynchus lavareti* Rudolphi, 1809a, 313.

*Acanthocheilonema* Cobb, 1870b, 9–14. *A. dracunculoides* Cobb, 1870b, 10–14, only species, hence type.

*Acanthocheilus* Molin, 1858, 154–155. *A. quadridentatus* Molin, 1858, 155, only species, hence type.

[Not *Acanthocheila* Stål, 1860, hemipteron; *Acanthorchila* Stål, 1873, for *Acanthocheila*.]

*Acanthopharynx* Marion, 1870, 34–37. Type species probably *A. affinis*.

*perarmata* Marion, 1870, 34–35, pl. K [26], figs. 1–1f. ♀

*oculata* Marion, 1870, 35, pl. K [26], figs. 2–2c. ♀

*striatipunctata* Marion, 1870, 35–36, pl. K [26], figs. 3–3c. ♀

*affinis* Marion, 1870, 36, pl. K [26], figs. 4–4b. ♂ ♀

There seems to be no evidence that males were examined for the first three species.

6328—No. 79—05—6 81
Acanthophorus von Linstow, 1876, 5-6. Type species? A. tenuis. See Tropidocerca.
[Not Acanthophorus Serv., 1832, coleopteron; Acanthophora Soll., 1873, protozoon; Acanthophora Hulst, 1896, insect; Acanthophorys Edw., 1865, crustacea.]

tenuis von Linstow, 1876, 5-6, pl. 1, figs. 7-9. δ

horridus von Linstow, 1876, 6, pl. 1, figs. 10-12. δ

Acanthosoma Mayer, 1844, 409-410. A. chrysalis Mayer, 1844, 409-410, pl. 10, figs. 5-8, only species, hence type. A larval dipteran which has been interpreted as a roundworm
[Not Acanthosoma Curt., 1824, hemipteron; Acanthosoma Owen Ross, 18--; crustacea; Acanthosoma De K., 1842, fish.]

Acanthrus Acharius, 1780, 49-55. A. sipunculoides Acharius, 1780, 49-55, pl. 2, figs. 1-9, only species, hence type.
[Not Acantharus Eichoff, 1886, insect.]

Acuaria Diesing, 1851a, [591]; spinicauda Diesing, 1851a, 188, renamed. 1851: Ascaris. 1860: Oxyuris. 1861: Pharyngodon (type).

acer Bastian, 1865c, 156-157, pl. 13, figs. 187-188.

Acanthophorus v. Linstow, 1876, 5-6, pl. 1, figs. 7-9. δ

horridus v. Linstow, 1876, 6, pl. 1, figs. 10-12. δ

Acanthosoma Mayer, 1844, 409-410. A. chrysalis Mayer, 1844, 409-410, pl. 10, figs. 5-8, only species, hence type. A larval dipteran which has been interpreted as a roundworm
[Not Acanthosoma Curt., 1824, hemipteron; Acanthosoma Owen Ross, 18--; crustacea; Acanthosoma De K., 1842, fish.]

Acanthrus Acharius, 1780, 49-55. A. sipunculoides Acharius, 1780, 49-55, pl. 2, figs. 1-9, only species, hence type.
[Not Acantharius Eichoff, 1886, insect.]
DETERMINATION OF GENERIC TYPES, ETC. 83

acutum Molin, 1861, 449.
1861: *Eosphagostomum.*
acutus Dujardin, 1845a, 105.
1845: *Proleptus* (type).
acequalis Molin, 1858, 383–384.
1858: *Filaria.* 1861: *Solenonema.*
acrophilum Creplin, 1839a, 278–279.
affine Leidy, 1856, 53.
1856: *Spironoura.* 1861: *Spirura.*
affinis Marion, 1870, 36, pl. K, fig. 4.
1870: *Acanthopharynx* (probably type).
Agamomermis Stiles, 1903, 15–17.
culicis Stiles, 1903, 15–17.
*Agamomermis* is a collective group for immature *Mermis*-like worms, which have not developed to a stage permitting a definite generic determination. Such a group has no type species.
Agamonema Diesing, 1851a, 78, 116–122. A collective group for immature nematoles in fish, and as such it has no type species. Original species:
bicolor (Creplin, 1825) Diesing, 1851a, 116.
papilligerum (Creplin, 1846) Diesing, 1851a, 116.
capsularia (Rudolphi, 1802) Diesing, 1851a, 116–117. Includes *Filocapsularia communis* Deslongchamps, 1824a, type.
ovatum (Zeder, 1803) Diesing, 1851a, 117–118.
cysticum (Rudolphi, 1819) Diesing, 1851a, 118.
(Species 6 to 24 are given as species inquirendae.)
Agamonematodum Diesing, 1861a, 727. A collective group for immature nematoles, and as such it has no type species. Original species:
alausse (Molin, 1859) Diesing, 1861a, 727.
paganetti (Molin, 1859) Diesing, 1861a, 727.
Agchylostoma Dubini, 1843a, 5–13. *A. duodenale* Dubini, 1843a, 5–13, only species, hence type. There exist the following variations in spelling:
1845: *Ancylostoma* Creplin, 1845a, 325. *Achylostoma* renamed.
1846: *Ancylostoma* "delle Chiaje, 1846a, 399." *Achylostoma* renamed.
1851: *Ancylostomum* Diesing, 1851a, 82. *Achylostoma* renamed.
1877: *Anchylostoma* Parona & Grassi, 1877, 192. Misprint.
1883: *Anchylostoma* La Clinica de Malaga, 1883, 309.
1886: *Ankylostoma* Leichtenstern, 1886, Mar. 18, 173; Apr. 8, 238. *Achylostoma* renamed.
1897: *Anechylostomum* Mchlanu, 1897, 573. Misprint.
1849: *Streptostoma* (type). [1849: *Aorurus* (? type); see also *attenuatum.*]
1853: *Streptostomum* (type).
agilis Rudolphi, 1819a, 67, 316–317.
1819: *Echinorhynchus.* 1892: *Neorhynchus.*
agilis Marion, 1870, 14–15, pl. B, fig. 1.
1870: *Amphistenus* (? type).
agilis Verrill, 1879, Nov. 5, 187-188.

1879: Nectonema (type).


agrostidis Bastian, 1865c, 125; includes "Vibrio graminis Steinbuch" and Anguillula graminicarum (in part) Diesing.

1865: Tylechus.

agrostis Steinbuch, 1799, 233-253.


Alainus de Man, 1880, 2-3. Type species A. primitivus, designated in letter from de Man to Stiles, dated Nov. 30, 1903.

primitivus de Man, 1880, 2-3.

9 dolichurus (de Man, 1876) de Man, 1880, 3.

alata Rudolphi, 1819a, 29-30, 256-257.

1819: Physaloptera.

Alaimus de Man, 1880, 2-3. Type species A. primitivus, designated in letter from de Man to Stiles, dated Nov. 30, 1903.

primitivus de Man, 1880, 2-3.

9 alata Rudolphi, 1819a, 29-30, 256-257.

1819: Physaloptera.

alfredi Camerano, 1894b, June, 1-3.

1894: Gordius. 1897: Parachordodes.

Allantinema R. Leuckart, 1884, 320. Misprint for Allantonema.

Allantonema R. Leuckart, 1884, 320. A. mirabile R. Leuckart, 1884, 320, only species, hence type.


allodapa Creplin, 1853b, 61-64; = typica Diesing, 1861a, 644.

1853: Oxyuris. [1861: Allodapa (type).]

Allolepota Brunn, 1878, orthopteron; Allodape Lep. Serv., 1825, hymenopteron; Allolepsis Fieb., 1861, hymenopteron.

Allodapa Schneider, 1859, 25. Sept., 176-177. A. appendiculatum Schneider, 1859, 177, only species, hence type.

alpestris Villot, "1884, 44-45." [Not accessible to us.]

"1884: Gordius." 1897: Parachordodes.

Amblyocera Linstow, 1898, 470-471. A. terdentatum Linstow, 1898, 470-471, pl. 35, figs. 12-14, only species, hence type.

Amblyura Hemprich & Ehrenberg, 1828a, unpaged. Type species probably A. serpentulus, see p. 66.

serpentulus (Mueller, 1773) Hemprich & Ehrenberg, 1828a, pl. 2, fig. 14. 9 9 gordius (Mueller, 1786) Hemprich & Ehrenberg, 1828a. [Very brief mention.]

americana Stiles, 1902, May 10, 777-778.

Amphistenus Marion, 1870, 14-16. Type species? A. agilis, by page precedence.

[Not Amphistenus Germ., 1843, coleopteron.]

agilis Marion, 1870, 14-15, pl. B, figs. 1-1g. ♀
pauli Marion, 1870, 15-16, pl. B, figs. 2-2b. ♀

Anchylostoma Molin, 1860, 966-967.

1860: Spiroptera. 1897: Ocystirura.

Anchylostoma Bozzolo, 1879b, 17 giugno, 369-370. Agchylostoma renamed, hence type species Agchylostoma duodenale.

Anchylostomum Möchlan, 1897, Mar., 573. Misprint for Anchyllostoma.

Anchylostoma "delle Chiaie, 1846a. 399." Agchylostoma renamed, hence type species Agchylostoma duodenale.

Anchylostoma Dubini, 1850a, 102-112. Agchylostoma renamed.

Anchylostomia Henderson, 1903a, Mar., 126. Misprint for Anchyllostoma.

Anchylostomum Diesing, 1851a, 321-322. Agchylostoma renamed, hence type species Agchylostoma duodenale.

Anchylostoma Creplin, 1845a, 325. Agchylostoma renamed, hence type species Agchylostoma duodenale.

[Not Anchyllostomia Ragonot, 1893, insect.]

Anchylostomum Diesing, 1851a, 82. Agchylostoma renamed, hence type species Agchylostoma duodenale.

Anygracanthopsis Diesing, 1861a, 670-671. A. bilabiata (Molin, 1860) Diesing, 1861a, 671, only species, hence type; = Aneygracanthus bilabiatus Molin.

Anygracanthus Diesing, 1838a, 189; 1839a. A. pectinatus Diesing, 1838a, 189, only species, hence type; nomen nudum except for habitat; renamed A. pinnatifidus Diesing, 1839a, 227-229, pl. 14, figs. 21-27.


Ancyrocephalus Creplin, 1839a, 292. A. paradoxus Creplin, 1839a, 292, only species, hence type. Creplin placed this genus among the trematodes. See also Linstow, 1878, 210.

androphora Nitzsch, 1821, 48-49.

1821: Aescaris. 1821: Hedrurus (type).

Anchylostoma La Clinica de Malaga, 1888, 309. For Agchylostoma, hence type duodenale.

Angiostoma Dujardin, 1845a, 244, 262-263. Type species A. limacis. See p. 34.

1845: Angiostomum Dujardin, 1845a, 3, 653.

1851: Angiostomum Diesing, 1851a, 79, 138-139.

[Not Angiostoma Schumacher, 1817, 229 (mollusk), for Angystoma Klein, 1753, mollusk, changed to Angiostoma Agassiz, 1846; Angystoma Risso, 1826, 226 (supergeneric).]

catemelos Dujardin, 1845a, 262-263, pl. 4, fig. C. ♀
limacis Dujardin, 1845a, 263, pl. 4, fig. B. ♀ To Leptodera angiostoma Schneider, 1866, 157. Type by designation (Schneider) and by absolute taunonymy. See p. 34.

Angiostomum Dujardin, 1845a, 3, 653. Corrected to Angiostoma Dujardin, 1845a, 653.

anguilla Lockwood, 1872, Aug., 449-454, figs. 120-122.

1872: Kolecops (type).

anguilla Mueller, 1780, 2, pl. 69; "1784, 84."

1780: Echinorhynchus. 1905: Acanthocephalus (type).
Anguillina Hammerschmidt, 1838a, 352, 358. A. monilis Hammerschmidt, 1838a, 358, pl. 4, fig. a, only species, hence type. Hammerschmidt states that there are three species in this genus, but he mentions only one.

[Not Anguillinia Rafinesque, 1815, 91, fish, subfamily; “Anguillina” Scudder, 1884, 19, for Anguillinia.]

Anguillula Grassi & Calandrucio, 1884a, 22 nov., 492-494. Misprint for Anguillula; for Rhabdonema.

Anguillula “Mueller, 1786, 63.” Type by absolute tautonymy Vibrio anguillula Mueller, 1773 [=Chaos redivivum Linnaeus, 1767, renamed], confined to Vibrio glutinis by Mueller, 1783, see discussion, p. 34.

Anguillula Hemprich & Ehrenberg, 1828a. Type species fluvialis = fluviatilis, by present designation, based upon page precedence, elimination, and other factors, see p. 34. Bastian’s designation of aceti as type can not be admitted, see p. 37.

anguillula Mueller, 1773, 41. Equals redivivum, 1767, renamed. See Anguillula.


Anguillulina Gervais & van Beneden, 1859b, 101-103. Type species probably A. tritici. tritici (Steinbuch, 1799, or Bauer, 1823) Gervais & van Beneden, 1859b, 102. To Tylenchus by Bastian, 1865c; returned to Anguillula by Railliet, 1893. dipsaci (Kuehn, 1857) Gervais & van Beneden, 1859b, 102-103. To Tylenchus by Bastian, 1865c.


[? Vibrio graminis Steinbuch in Naturf., 28, 233, & Analecten 97, 135]; to Tylenchus as T. agrostidis by Bastian, 1865c, 128.

Ankylostoma Parona & Grassi, 1877, 192. Misprint for Anchylostoma.


Ascaris distans Rudolphi, 1809a, 128-129. ♂ ♀

Ascaris simplex Rudolphi, 1809a, 170. ♂ ♀

Ankylostoma Lutz, 1885, 2295-2350, 2467-2506; Leichtenstern, 1886, Mar. 18, 173; Apr. 8, 238. 

Ankylostoma renamed, hence type species as A. duodenale. 

Ankylostomum Stossich, 1895, 21-25. 

Ankylostoma renamed, hence type species A. duodenale. 

annulata de Man, 1880, 59.

1880: Macroposthonia (type).

annulosum Dujardin, 1845a, 27.

1845: Calodium (?type).

Anoplostoma Buetschli, 1874b, 272-273. Type species Symplocostoma viripara Bastian, 1865c, 133-134, pl. 11, figs. 125-125; designated type of genus by Buetschli, 1874b, 272.

anoura Dujardin, 1845a, 221-222.

1845: Ascaris. 1845: Ascaris (Polydelphis [type]).

antarcticus de Man, 1904, 44.

1904: Plectus (Plectoides).


weismanni zu zur Strassen, 1904, 302-346, figs. b, c, e, h, pl. 15, figs. 1-4; pl. 16, figs. 6-9. More common species.

sagax zur zu zur Strassen, 1904, 302-346, figs. a, d, g, j, pl. 15, fig. 5.

Anthuris Rudolphi, 1819a, 244. Type by absolute tautonymy Spiroptera anthuris Rudolphi, 1819a, 25. It seems positive that Rudolphi based his generic term Anthuris on this species.

Anthuris Rudolphi, 1819a, 25.


Aorurus Bastian, 1865c, 141-142. Type A. eberthi, designated by Bastian in letter to Stiles, dated March 22, 1904.

eberthi Bastian, 1865c, 141, pl. 11, figs. 143-145. ♂ ♀
limalis Bastian, 1865c, 141-142, pl. 11, figs. 146-148. ♂
pellucida Bastian, 1865c, 142, pl. 11, figs. 149-150. ♀
acuminata (Eberth, 1863) Bastian, 1865c, 142. ♂ ♂ [Not examined by Bastian.]

Antoplectus see sub Autoplectus Balsamo-Crivelli, 1843b.


Leidy divided Aorurus into two subgenera, namely, Streptostoma (only species, hence type agile ♂) and Thelastoma (only species, hence type attenuatum ♀).

Leidy, 1850, 100-102, still retains the same order, namely, one genus divided into two subgenera. Either agile or attenuatum may be taken as type.

Aphanolaiminus de Man, 1880, 5-6. A. attenatus de Man, 1880, 6, only species, hence type.

Aphelenchus Bastian, 1865c, 93, 121-124. Type species A. arenus, designated by Bastian in letter to Stiles, dated March 22, 1904.

arenus Bastian, 1865c, 122-123, pl. 10, figs. 97-98. ♀
illosus Bastian, 1865c, 123, pl. 10, figs. 99-101. ♂ ♀
arietinus Bastian, 1865c, 123, pl. 10, figs. 102-103. ♀
pyri Bastian, 1865c, 123-124, pl. 10, figs. 103a-103c. ♂ ♀
aparium Bosc, 1812a, 72-73, pl. 1, fig. 3.

1812: Dipolium (type).

Apororhynchus Shipley, 1899, Aug., 361. A. hemignathi (Shipley, 1896), only species, hence type.


appendiculatum Schneider, 1859, 25. Sept., 177.

1859: Allionema (type).

appendiculatus Molin, 1861, 544-547.

1861: Kalicephalus.

Aprocta von Linstow, 1883, 289-290. A. cylindrica von Linstow, 1883, 289-290, pl. 7, fig. 21, only species, hence type.

[Not Aprocta Diesing, 1850a, 478, 481, suborder. Diesing's use of this name in subordinal sense does not invalidate Aprocta, 1883.]

aquaticus Linneaus, 1758a, 647.

1758: Gordius (type).

aquaticus de Man, 1880, 60.

1880: Rhabdolaimus.

aquatilis Dujardin, 1845a, 68, pl. 3, fig. E.

1845: Filaria. 1889: Mermis. [1898: Paramermis.]


Arxolaimoides de Man, 1883, 86. Arxolaimus (Arxolaimoides) microphthalinus de Man, 1893, 86-89, pl. 5, fig. 4, only species, hence type.

Arxolaimus de Man, 1888, 14-17. Type species A. bioculatus, designated in letter from de Man to Stiles, dated Nov. 30, 1903.

1888: Arxolaimus de Man, 1888, 15. For Arxolaimus.

bioculatus (de Man, 1877) de Man, 1888, 15. ♂ ♀
[mediterraneus de Man, 1877]; see also de Man, 1888, 15. ♂ ♀
degans de Man, 1888, 16-17, pl. 1, fig. 9. ♂ ♀
Ascaridida Dujardin, 1845a, 151, 214-220. Type species? Ascaris truncata. A subspecies of Ascaris containing

truncata (Zeder, 1803), § Q, including Ascaris hermaphrodita Froelich.
inflata Rudolphi, 1819a, § Q, including Fusaria reflexa Zeder, 1800a [not Fusaria inflata Zeder, 1800] and Ascaris fusciculus Deslongchamps. See sub refluxa, Heterakis vesicularis (type).
gibbosa Rudolphi, 1809a, as doubtful; including Fusaria strumosa Zeder, 1800a. perspicillum Rudolphi, 1809a, as doubtful.
compar Schrank, 1790, as doubtful; including Ascaris lagopodis Froelich, 1802a.
maculosa Rudolphi, 1809a, § Q, including Ascaris columbae Gmelin, 1790a.

Ascaris Linneaus, 1758a, 644, 648. Type by elimination and designation Ascaris lumbricoides Linneaus, 1758a. For discussion, see p. 60.

1780: Stomachida Pereboom, 1780, only species, hence type Stomachida vermis = Ascaris lumbricoides.

1800: Fusaria Zeder, 1800a; = Ascaris renamed, hence type species Ascaris lumbricoides.

1821: Lumbricoides Merat, 1821, 225, type vulgaris = lumbricoides.

vermicularis Linneaus, 1758a, 648. To Fusaria by Zeder, 1803a; to Oxyuris by Bremer, 1819a.
lumbricoides Linneaus, 1758a, 648; = Stomachida vermis Pereboom, 1780; to Fusaria by Zeder, 1800a; = Ascaris renamed.
ascaroides Goeze, 1782a, 40, 134. See armata Rudolphi.

1782: Cucullanus. [1800: Goezia (type).] [1801: Cochius (type).] 1810: Pri
nonoderma (type).

Ascaroides Barthélemy, 1858a, 41-48. A. lunicis Barthélemy, 1858a, 41-48, pl. 5, figs. 8-15, only species, hence type.

Ascarophis van Beneden, 1871a, 92. Mentions A. mornhux (from Gadus mornhia), pl. 3, fig. 1, apparently type. See Ascarophis.

Ascaropis van Beneden, 1873b, 22. A. minuta van Beneden, 1873b, 22, pl. 5, figs. 6-11, only species, hence type.

Ascaropis Power & Sedgwick, 1880. See Ascarophis van Beneden, 1871a.

Asconema R. Leuckart, 1886, 20. Dec., 743-746. A. gibboon R. Leuckart, 1886, 743-
746, only species, hence type. See Atractonema.
[Not Askonema Kent, 1870, Nov. 1, sponge.]

Ascoria Huber, 1896a, 562. Misprint for Ascaris, 1758.

Aspidocephalus Diesing, 1851a, 80, 208. A. scoleciformis Diesing, 1851a, 208, only species, hence type.
[Not Aspidocephalus Motsch, 1839, coleopteron, for Aspicephalus; not Aspidocephala Burmeister, 1837, crustacean (supergeneric name); not Aspidocephali Rig., 1828, reptile (supergeneric name).]
**Determination of Generic Types, Etc.**

*Atractis* Dujardin, 1845a, 230, 233, 654. *Ascaris dactyluris* Rudolphi, 1819a, only species, hence type.

*Atractonema* R. Leuckart, 1887, Apr. 25, 678–703, pl. 3, figs. 1–13; [= *Asconema* Leuckart, 1886 [not *Askonema Kent, 1870*], renamed]. Type species *A. gibboum.*

*attenuus* de Man, 1880, 6.

1880: *Aphanolaimus* (type).

*attenuata* Rudolphi, 1803, 3. See also *Filaria falcinis* Gmelin, 1790a.

1803: *Filaria* (? type, see also *quadrispina* Diesing, and *martis* Gmelin).

*attenuata* Rudolphi, 1819a, 26.

[1811: *Acuaria.*] 1819: *Spiroptera.* 1845: *Dispharagus.*

*attenuatum* Leidy, 1849, 231.


*attenuatus* Dujardin, 1845a, 236.

1845: *Oncholaimus* (? type, see p. 121). 1851: *Enoplus.*


*australis* Cobb, 1894c, Apr. 13, 409–410, figs. 9, i–iv.

1894: *Bathydaimus* (type).

*Autolpectus* Balsamo-Crivelli, 1843b, 188. *A. protrogenum* Balsamo-Crivelli, 1843b, 188, only species, hence type.

[Not *Autolpectus* Raffray, 1883, insect; see Zool. Rec. (1883), 1884, v. 20, Index, 2; Waterhouse, 1902, 40, gives this as *Autolpectus* (probably misprint).]

*aeneus* Bastian, 1865c, 122–123, pl. 10, figs. 97–98.

1865: *Aphelenchus* (type).

*Arconolaimus* de Man, 1889, 3–4. Type species *A. spinosus,* designated in letter from de Man to Stiles, dated Nov. 30, 1903.

*spinosus* (Buntschl, 1874) de Man, 1889, 3, 4. ♂ ♀ [See also de Man, 1888, 19.]

*filiformis* de Man, 1889, 3–4. ♂ ♀

*bacillata* Eberth, 1863a, 19–20, pl. 2, figs. 1–4.

1863: *Phanogline. 1865: Leptosomatum.*

*barbara* Carter, 1859d, July, 43–44, pl. 3, fig. 32.

1859: *Urolabes. 1865: Symplocostoma.*

*bargiger* Nordmann, 1840, 664.

1840: *Phanogline.*


*Bastiana* Scudder, 1882, 37. Misprint for *Bastania.*

*Bastania* de Man, 1876, 172–174. *B. gracilis* de Man, 1876, 172–174, pl. 11, figs. 43, a–c, only species, hence type.

1884: *Bastiana* Scudder, 1884, 37. Misprint for *Bastania.*


*Bathydaimus* Cobb, 1894c, Apr. 13, 409–410. *B. australis* Cobb, 1894c, 409–410, figs. 9, i–iv, only species, hence type.

*bicolor* Creplin, 1825a, 4–5.

1825: *Filaria. 1851: Agamonema.*

*bicuspid* Rudolphi, 1819a, 24, 240–241.

1819: *Spiroptera.* 1845: *Dispharagus.*

*bident* Rudolphi, 1819a, 24, 240.


1780: *Ascaris.* 1801: *Ophiostoma.* 1803: *Ophiostoma. [?] Proboscidea.*
bifida Molin, 1858, 411-412.
1858: Filaria. 1861: Dicheilonema.
 bifurcata Cobb, 1898a, Mar., 315, figs. 36, i-iv; [Apr.], 453, fig. 127.
 1898: Lepidonomae (type).
 biliabata Diesing, 1851a, 277; includes Filaria sternae Rudolphi, 1819a.
 1851: Filaria. 1861: Dicheilonema.
 biliabata Molin, 1860, 343.
 1860: Anycracanthus. 1861: Anycracanthopsis (type).
 "bilinguis" Schrank, 1796, 231, n. 1, pl. 2, A, B. [Not accessible to us.]
 1796: Linguatula (probably type). 1809: Hamularia. [1851: Filaria nodulosa.]
 1851: Filaria. 1861: Dicheilonema.
 bioculata Schultze, 1857, pi. 8, fig. 2.
 1857: Rhabditis. 1865: Chromadora.
 bioculata de Man, 1877, 107-108, pl. 8, figs. 13, a-d.
 1877: Spiira. 1888: Arxolaimus (type).
 bispinosa Diesing, 1851a, 278.
 1851: Filaria. 1861: Dicheilonema.
 bicornis Zenker, 1827, 53.
 1827: Netrorhynchus (type).
bombi DuFour, 1837a, 9, pl. 1 A, fig. 3.
 1837: Sphueruloria (type).
 bothropis Molin, 1861, 549; sp. inq.
 1861: Kalicephalus.
 1904: Myenchus (type).
 Brachynema Cobb, 1893a, Oct., 811. B. obtusa Cobb, 1893a, 811, only species, hence type.
 [Not Brachynema Fieb., 1861, hemipteron.]
 Bradynema zur Strassen, 1892, Oct. 18, 655-747. Filaria rigida von Siebold, 1836, 33, only species, hence type.
 brevicaudata Zeder, 1800a, 66-68.
 brevicaudata Mueller, 1894, 113, 116-117, pl. 7, fig. 2.
 1894: Strongylaris (type).
 brevicaudatum Marion, 1870, 24-25, pl. G, fig. 2.
 1870: Enoplostoma.
 brevicaudatus Dujardin, 1845a, 80.
 1845: Dispharagus. 1851: Histocephalus. 1891: Dispharagus.
 brevicaudatus Cobb, 1898a, Apr., 440, 441, figs. 102-103.
 1898: Zoniolaimus.
 brevicolle Rudolphi, 1819a, 13; =capillaris Rudolphi, 1809a, 86, renamed.
 [1803: Capillaria tumida (type).] 1819: Trichosoma (type).
 brevicollis Cobb, 1898a, Mar., 311, figs. 29, i-iv.
 1898: Rhigonema (type).
 brevispinosa Molin, 1860, 921.
 1860: Spiroptera. 1897: Oxyspirura.
 brevispinus Molin, 1861, 548-549.
 1861: Kalicephalus.
 brevispinosus Diesing, 1861a, 728.
 1861: Uracanthus (type).
 brevisubulata Molin, 1860, 959.
 1860: Spiroptera. 1897: Oxyspirura.
Determination of Generic Types, etc.

**britannicus** de Man, 1889, 4–5.

1889: *Thalassiroanus* (type).

*Buononema* Jägerskiöld, 1905, Feb. 28, 557–561, 1 fig. *B. richtersi* Jägerskiöld, 1905, 557–561, 1 fig., only species, hence type.

*Buononemum* Railliet, 1902, Feb. 7, 108–109, 110. Type by original designation *B. trigonocephalum* (Rudolphi, 1809) Railliet, 1902, 108. Railliet proposed *Buononemum* to replace *Monodontus* Molin, 1861, but he designated *B. trigonocephalum* type of *Buononemum*. (See below, p. 121.)

**cveca** Bastian, 1865c, 169, pl. 13, figs. 239–241.

1865: *Chromadora*.

**cucus** Bastian, 1865c, 163, pl. 13, figs. 213–214.

1865: *Cynthia lobainus*.

*Calodium* Dujardin, 1845a, 4, 25–29. Type species? *C. annulosum*.

*Calodium* Dujardin, 1845a, 25–26, pl. 1, fig. A. ♂ ♀

*plica* (Rudolphi, 1819) Dujardin, 1845a, 26–27. ♂ ♀

*annulosum* Dujardin, 1845a, 27. ♂ ♀ (From *Mus rattus* and *M. decumanus*.)


*ornatum* (Dujardin, 1843) Dujardin, 1845a, 28. ♂ ♀

*tenue* Dujardin, 1845a, 28–29. ♂ ♀ (From *Columba domestica*.)

As the rat is one of the easiest animals to obtain, it will be better to select *C. annulosum* as type, unless some author has already selected another species.

**calvadosicus** de Man, 1890, 190–192, pl. 5, fig. 10.

1890: *Oncholaimellus* (type).


*Calyptronema* Marion, 1870, 12–13. *C. paradoxum* Marion, 1870, 12–13, pl. A, fig. 2, only species, hence type.


*Camnocolaimus* de Man, 1889, 8. *C. tardus* de Man, 1889, 8, only species, hence type.


*Capillaria* Zeder, 1800a, 5. Type by virtual tauntonym and page precedence *Trichocephalus capillaris* Rudolphi, 1809a; = *Capillaria tumida*.

[Not Capillaria Gistl., 1848; not *Capillaria* Haworth, 1828, lepidopteron.]

1819: *Trichosoma* Rudolphi, 1819a, 13–16, 219–223; = *Capillaria* Zeder, 1800a, renamed.

1839: *Trichosomum* Creplin, 1839a, 278; for *Trichosoma*.

*trumida* Zeder, 1803a, 61; from *Anas quaerugudula*; = *Trichocephalus anatis* Schrank, 1790, renamed; = *Trichocephalus capillaris* Rudolphi, 1809a, 80, including *Linguatula trichocephala* Schrank, 1797, 232, and *Capillaria tumida*; renamed *Trichosoma brevicolle* Rudolphi, 1819a, 13. Type by virtual tauntonym and page precedence.

*semiteres* Zeder, 1803a, 61. Renamed *Hamularia nodulosa* Rudolphi, 1809a, 84, and *Trichosoma longicolle* Rudolphi, 1819a, 221, including *Filaria gallinæe* Gmelin, 1790a, 3040, *Gordius gallinæ* (Gmelin), Tabl. encycl., *Linguatula unilinguis* Schrank, 1797, 231.

*capillaris* Rudolphi, 1809a, 86–87; = *anatis* Schrank, 1790, and *tumida* renamed.

[1790: *Trichocephalus anatis*] [1803: *Capillaria tumida* sub (type).] 1809: *Trichocephalus*. [1819: *Trichosoma brevicolle* sub (type).]

*capillaris* Molin, 1890, 349.

1860: *Spiroptera*. 1861: *Cheilospira*.

*capitatus* Looss, 1900, 191–192.

1900: *Gyalocephalus* (type).
Capsularia Zeder, 1800a, 5, 7–15. Type by tautonymy and page precedence, *Ascaris capsularia* Rudolphi, 1802a; = *Capsularia salaris*. See p. 37.

[Not Capsularia Oken, 1815, coleopteron.]

*salaris* (Gmelin, 1790) Zeder, 1800a; renamed *Ascaris capsularia* Rudolphi, 1802, 27.

*halecis* (Gmelin, 1790) Zeder, 1800a; renamed *Filaria capsularia* Rudolphi, 1802, 3–5; renamed *Filocapsularia communis* Deslongchamps, in part *halecis*. *capsularia* Rudolphi, 1802, 2–5; = *Capsularia halecis* renamed; see *Filocapsularia communis*.

[1800: *Capsularia*.] 1802: *Filaria*. [Sub *Filocapsularia communis* Deslongchamps, 1824q (type).]

*capsularia* Rudolphi, 1802, 27; = *Capsularia salaris* renamed.

[1800: *Capsularia*.] 1802: *Ascaris*. 1851: *Agamonema*.

*Carnoya* Gilson, 1898a, 335–369. *C. vitiensis* Gilson, 1898a, 335–369, 1 pi., figs. 1–23, only species, hence type.

*caianensis* Drago, [“1887a”] 1887b, 81–83. Parasitic oligohete.

*caudispina* Molin, 1858, 382–383, pl. 1, fig. 4. 1858: *Filaria*. 1861: *Diptalonomo* (probably type).

*Cephalacanthus* Diesing, 1853a, Jan., 34–35. Type species probably *C. monacanthus*.

[Not *Cephalacanthus* Lac., 1802, fish.]

*monacanthus* Diesing, 1853a, 35. Host *Tenebrio molitor*.

*triacanthus* Diesing, 1853a, 35. Host *Geotrupes stercorarius*.

*Cephalobus* Bastian, 1865c, 94, 124–125. Type species probably *C. persegnis*. [Not *Cephalacanthus* Lac., 1802, fish.]

*persegnis* Bastian, 1865c, 124–125, pl. 10, figs. 104–106. ♀ ♂

*striatus* Bastian, 1865c, 125, pl. 10, figs. 107–108. ♀

*Cephalonema* Cobb, 1893a, Oct., 821. *C. longicauda* Cobb, 1893a, 825, fig. 41, only species, hence type. See *Nanonema*.

[Not *Cephalonema*, Stimsps. (?) date, worm. See Scudder, 1884, 58.]

*cephalopodum* Diesing, 1851a, 353. 1851: *Fictitium* (type).


*Ceratospira* Schneider, 1866, 29, 104, 108–109. *C. resiculosa* Schneider, 1866, 109, 1 fig, only species, hence type.

*Cercosoma* Brera, 1809a, 106–108. Larva of *Eristalis*.

*ecti* Roussel, 1834, 326–331. 1834: *Odontobius* (type).


1903: *Sabatéria* (type).

*Chiasia* Hill, 1752a, 14, pl. 2. Pre-Linnean, for *Gordius aquaticus*.

*Chatosoma* Claparède, 1863a, 88–89. *C. opheicephalum* Claparède, 1863a, 88–89, pl. 18, figs. 2–3, only species, hence type.

[Not *Chatosoma* Dej., (?) date, coleopteron; *Chatosoma* Westwood, 1851, coleopteron; *Chatoctoma* Tsch., 1845, fish; *Chatosoma* Rond., 1856, dipterone; *Chatoctoma* Motsch, coleopteron.]

*Cholaimus* Cobb, 1893a, Oct., 821. *C. pellicidus* Cobb, 1893a, 821, fig. 39, only species, hence type.
Determination of Generic Types, Etc.

93

*Chaos* Linnaeus, 1767, 1074, 1326–1327. Type by absolute tautonymy *Chaos proteus* Linnaeus, 1767; = *Volvox chaos* Linnaeus, 1758a; = *Chaos chaos* (Linnaeus, 1758) Siles, 1905 [= *Amoeba proteus*]. For discussion, see p. 38.

[Not *Chaos* Gray, 1843, mammal.]

*chaos* Linnaeus, 1758a, 821. See also *proteus* and *proteus*.


*Characostomum* Railliet, 1902, 109–110. Type species *C. longemucronatum* (Molin, 1861). Railliet proposed this generic name as substitute for *Globocephalus* Molin, 1861, because of the existence of *Globocephalus* Lesson, 1828, mammal. He had previously (1895) proposed *Cystocephalus* as substitute, but this is preoccupied by *Cystocephalus* Léger, 1892. Since, however, *Globocephalus* and *Globocephalus* are two different combinations of letters, they are different, hence can not be identical. There is therefore no necessity for rejecting *Globocephalus*.

*Cheilospirura* Diesing, 1861a, 618, 683–686. Type species by present designation *C. hamulosa*.

1884: *Cheirosipirura* von Drasche, 1884a, 213. Misprint.

*posthelica* (Molin, 1860) Diesing, 1861a, 683–684. ♂️

*quadricostata* (Molin, 1860) Diesing, 1861a, 684: ♂️ ♂️

*erecta* (Molin, 1860) Diesing, 1861a, 684. ♂️ ♂️ See *Spiroptera anabatis*.


*hamulosa* (Diesing, 1851) Diesing, 1861a, 685. ♂️ ♂️ (From *Gallus gallus*.) To *Disphragus* by Stossich, 1890.

*longestriata* (Molin, 1860) Diesing, 1861a, 685. ♂️ ♂️

*cephaloptera* (Molin, 1860) Diesing, 1861a, 686. ♂️ ♂️ To *Oxyspirura* by Stossich, 1897 (type).

*capillaris* (Molin, 1860) Diesing, 1861a, 686; sp. inq.

*Cheilosipirura hamulosa* is here designated as type of *Cheilosipirura*; upon the following grounds: (1) It is a more or less common and widespread species found in a food animal, hence it can be easily obtained; (2) it was examined by Diesing, the author of the genus; (3) it is the oldest of the original species of *Cheilosipirura*; (4) as the generic name *Disphragus*, 1845 (with which *hamulosa* is now usually combined), must drop as synonym of *Aecaria* 1811 (because of type by inclusion), a selection of *hamulosa* as type of *Cheilosipirura*, 1861, now gives us a more or less well-known name for the *hamulosa* group.

*Cheilostomi* Diesing, 1851a, 264, 276–279. Section of *Filaria* with two subsections: *Dicheilostomi* and *Tricheilostomi*.

*Cheiracanthus* Diesing, 1838a, 189 [nomen nudum except for habitat]; 1839a, 221–227. Type species by inclusion *C. robustus*. See *Gnathostoma*.

[Not *Cheiracanthus* Agassiz, 1833, fish.]

*robustus* Diesing, 1838a, 189 [nomen nudum except for habitat]; 1839a, 222–225, pl. 14, figs. 1–7. ♂️ ♂️ See *Gnathostoma spinigerum*.

*gracilis* Diesing, 1838a, 189 [nomen nudum except for habitat]; 1839a, 225, pl. 14, figs. 8–11. ♂️ ♂️

Diesing (1839) gives *Gnathostoma spinigerum* Owen, 1837, as probable synonym of *Ch. robustus*.

*Cheirosipirura* von Drasche, 1884a, 213. Misprint for *Cheilosipirura*.

*chlorurus* de Man, 1880, 61–62.

1880: *Odontolaimus* (type).
Chromatolaimus de Man, 1880, 28-29.  C. psammophilus de Man, 1880, 29, only species, hence type.

Chordodes Creplin, 1847b, 161-165.  C. parasitus Creplin, 1847b, 161-165, only species, hence type.

Chromadora Bastian, 1865c, 95, 167-170.  Type C. vulgaris, designated by Bastian in letter to Stiles, dated March 22, 1904.  
1886: *Euchromadora* de Man, 1886, 67-76; type vulgaris.

vulgaris Bastian, 1865c, 167-168, pl. 13, figs. 233-235.  ♀ (Type of *Euchromadora* de Man, 1886.)

lodicapitata Bastian, 1865c, 168, pl. 13, figs. 230-232.  ♀

natans Bastian, 1865c, 168-169, pl. 13, figs. 236-238.  ♀

crcea Bastian, 1865c, 169, pl. 13, figs. 239-241.  ♂

filiformis Bastian, 1865c, 169, pl. 13, figs. 242-244.  ♀

subellloides Bastian, 1865c, 169-170, pl. 13, figs. 245-246.  ♀

papillata Bastian, 1865c, 170, pl. 13, figs. 247-248.  ♂

bioculata (Schultze, 1857) Bastian, 1865c, 170.  Sexes?

occultata (Carter, 1859) Bastian, 1865c, 170.  ♀

Chromogaster Cobb, 1894c, Apr. 13, 416-419.  Type C. purpurea Cobb, 1894c, designated by Cobb in letter to Stiles, dated Dec. 15, 1903.

[Not Chromogaster Lauterborn, 1893, worm.]

1902: *Chromogaster* Waterhouse, 1902, 75.  For *Chromagaster*.

nigricans Cobb, 1894c, Apr. 13, 416-417.  ♂

purpurea Cobb, 1894c, Apr. 13, 417-419, figs. 12, i-iv.  ♀

Chromogaster Waterhouse, 1902, 75.  For *Chromagaster*.

chrystalis Mayer, 1844, 409-410, pl. 10, figs. 5-8.

1844: *Acanthosoma* (type).

ciliatus von Linstow, 1877, 2-3.

1877: *Acrobeles* (type).

cincta Cobb, 1894c, Apr. 13, 390-391, figs. 2-3.

1894: *Tricoma* (type).

cinetus von Linstow, 1898, 469-470, pl. 35, figs. 3-11.


Corlychnus Zeder, 1803a, viii.  Misprint for *Liorhynchus*.

cirratus Bastian, 1865c, 119, pl. 10, figs. 81-82.

1865: *Plectus*.

cirratus Eberth, 1863a, 34-35, pl. 2, figs. 20-22; pl. 4, fig. 17; pl. 5, fig. 4.


clausa Rudolphi, 1819a, 29, 255-256, pl. 1, figs. 2-3.

1819: *Physaloptera* (type).

cirriceps Zeder, 1800a, 130-131.


Cloacina von Linstow, 1898, Mar., 286-290.  C. dahli von Linstow, 1898, 286-290, pl. 22, figs. 13-20, only species, hence type.

Cochlus Zeder, 1803a, 45-50.  *Gozia* Zeder, 1800a, renamed, hence type species *Cochlus armatus = Cucullanus ascaroides*.

[Not *Cochlus* Humph., 1797, mollusk; *Meg.* (? date), mollusk.]

cocksi Bastian, 1865c, 143, pl. 11, figs. 151-153.

1865: *Phanoderma* (type).

Coleops.  See Coleops.

collaris Hemprich & Ehrenberg, 1828a.

1828: *Crossophorus* (? type).

columba Schrank, 1788, 8.

1788: *Ascaris*.  [1845: *Ascaris* (*Ascaridia*) *maculosa* (sub.)]
DETERMINATION OF GENERIC TYPES, ETC. 95

coyumbi Rudolphi, 1819a, 10. Nomen nudum except for host. See acuta.

1819: Filaria. [1861: Dicheilonema.]

Comensa Bastian, 1865c, 95, 158-159. Type C. vulgaris Bastian, 1865c, designated by Bastian in letter to Stiles, dated March 22, 1904.

vulgaris Bastian, 1865c, 158-159, pl. 13, figs. 195-197. ♀ ♂ Type.

profundi Bastian, 1865c, 159, pl. 13, figs. 198-200. ♀ ♂

Communis Deslongchamps, 1824q, 399-400. See capsularia Rudolphi, 1802, 2-5.

1824: FiloCapsularia (type).

Communis Buetschli, 1874b, 282-283, pl. 6, figs. 27, a-b; pl. 7, figs. 27, c-d.

1874: Spirophora. 1889: Desmodora (type).

Communis de Man, 1880, 34.

1880: Cylindrolaimus (type).

Communis de Man, 1880, 63.

1880: Diptherothophora (type).

Communis de Man, 1888, 12, pl. 1, fig. 7.

1888: Terschellingia (type).

Communata Diesing, 1851a, 152. Includes "Ascaris brevicupata Zeder" of Rudolphi, 1819a, 284; from Bufo viridis.

1851: Ascaris. 1861: Cosmocerca. 1866: Xemaloxys.

"Communata Rudolphi," of Schneider, 1866, 113. See communata Diesing.

Compar Schrank, 1790, 120.


Conesca Molin, 1858, 412.

1858: Filaria. 1861: Dicheilonema.

Conoecephalus Diesing, 1861a, 616, 669. C. typicus, only species, hence type.

[Not Conoecephalus Thumb., 1812, orthopteron; Zenk., 1833, crustacean; Schenck., 1838, coleopteron; Dum., 1853, reptile.]

tortora Rudolphi, 1819a, 25, 242-243.

1819: Spirophora. 1866: Spiroxys (type). [1866: Spiroxix (type).]

Contortus Rudolphi, 1803, 15-17.

1803: Strongyulus. 1898: Hexoncheus (type).

Contortus Cobb, 1894e, Apr. 13, 414.


Convolutus Kuhn, 1829b, 365-366.

1829: Strongylus. 1851: Prosthecosaurus.

Copulatum Molin, 1861, 462-463.

1861: Eucyathostomum.

Coronata van Beneden, ["1858a"]; 1861a, 270-271.

[1858: Spiropterina (type).] 1861: Spiropterina (type)

Coronatus Molin, 1861, 533-534, pl. 6, figs. 1-2.

1861: Histiostrongylus (type).

Coronatus Eberth, 1863a, 37-38, pl. 3, figs. 13-19.

1863: Enoplus. 1865: Leptosomatum.

Coronilla van Beneden, 1871a, 6, 17, 18; [possibly earlier]. Type? C. robusta.

[Not Coronella Laur., 1768, reptile; not Coronella Goldf., 1820, rotifer.]

Silicola van Beneden, 1871a, 6; [no description]. Host Mustehus vulgaris.

minuta van Beneden, 1871a, 17; n. sp.; [no description]. Host Raja batis.

robusta van Beneden, 1871a, 18, 19, pl. 3, figs. 2-7; n. sp. Hosts Raja circularis and R. clavata.

Corynosoma Luehe, 1904, Dec., 231; 1905, 342. Type by original designation C. strumosum (Rudolphi, 1802) Luehe, 1904, 231; 1905, 342.

Cosmocephalus Molin, 1858, 151-152. C. diesingii Molin, 1858, 151-152, only species, hence type.

[Not Cosmocephala Stimps., 1857, worm.]
Cosmocerca Diesing, 1861a, 614, 645–646. C. ornata (Dujardin, 1845), only valid species, hence type.
1866: Nematozys Schneider, 1866, 29, 111–113.
[Not Cosmocerca Dej., ? date, coleopteron; Thoms., 1864, coleopteron.]
ornata (Dujardin, 1845) Diesing, 1861a, 645. Type.
commutata (Diesing, 1851) Diesing, 1861a, 645–646; species inquirenda.
costata Bastian, 1865c, 166–167, pl. 13, figs. 228–229.
1865: Spiophora. 1889: Monoposthia (type).
costatus Rudolphi, 1819a, 647–648.
1819: Strongylus. 1845: Sclerostoma. 1851: Diaphanocephalus.
costellatus Dujardin, 1845a, 116.
1845: Strongylus. 1861: Metastrongylus.
crassa von Linstow, 1889, 392–396, pl. 22, figs. 2–8.
1889: Mermis. [1898: Paramermis (type).]
crassicauda Bellingham, 1845a, Jan., 476.
crassiusculus Dujardin, 1845a, 235.
1845: Enoplos. 1865: Mononchus.
striatum (Zeder, 1800) Molin, 1861, 440–441, pl. 1, figs. 1–2.
semiarmatum Molin, 1861, 442. Includes Strongylus decoratus Creplin, 1847a, 289, and Liorhynchus culpis Dujardin, 1845a, 283.
Unless semiarmatum has already been designated as type, it will be best to select striatum as such.
crinias Wedd, 1855, 384–385, 394, pl. 3, figs. 18–20.
1855: Dicentrocephalus (type). [1861: Dicentrocephalus.]
Crino Lamarck, 1801, 339–340. C. truncatus Lamarck, 1801, only species, hence type.
[Not Crino Huebn., 1816, lepidopteron; Gistl., 1848, mollusk.]
Crino truncatus is based upon “Les Crinons” of Chabert, 1787a, 21–24, which is a heterogeneous group of roundworms found especially in the horse, and found also in dogs and other animals. Scudder attributes Crino to Chabert, 1782, but we have been unable to verify this.
cristata Frelich, 1802a, 9–13, pl. 1, figs. 1–3.
1802: Rictularia (type). 1819: Ophistoma. [1845: Laphyctes (type).]
cristatus Bastian, 1865c, 102, pl. 9, figs. 33–34.
1865: Mononchus.
Crossophorus Hemprich & Ehrenberg, 1828a. Type species? C. collaris.
[Not Crossophora Meyrick, 1883, insect. See Zool. Rec. (1883), 1884, v. 20, Index, 4.]
collaris Hemprich & Ehrenberg, 1828a.
tentaculatus Hemprich & Ehrenberg, 1828a.
crucis Maupas, 1900, 578–582, pl. 26, figs. 4–10.
1900: Macrodolimus (type).
[Not Ctenocephalus Kol., 1857, dipterons.]
Cuculanus Bloch, 1782a, 34–35. For Cucullanus.
Cucullanus Mueller, "1777, 50, pl. 38, figs. 1–11 [not accessible]"; see 1779, 99–101, where two species are given.
1782: Cuculanus Bloch, 1782a, 34–35. For Cucullanus.
1803: Cucullus Zeder, 1803a, 50. Misprint.
marinus Mueller, 1779, 99–101, for pl. 38, figs. 1–11. See also forcolatus.
Cucullanus Mueller—Continued.

laciistris (Mueller, 1776) Mueller, 1779, 100.

Dujardin (1845a, 245) has designated Cucullanus elegans as type. Not being able to obtain Mueller, 1777, we reserve judgment upon this case. Probably marinus should have been taken as type.

cucullanus Schrank, 1788, 50–51.

1788: Tenia. [1803: Cocillus armatus sub.] [1845: Prionoderma ascarioides sub.]

Cucullus Zeder, 1803a, 50. Misprint for Cucullanus.

culicis Stiles, 1903, 15–17.

1903: Agamonema.

curva Rudolphi, 1803a, 6–8. See equi.


Cyatholainus Bastian, 1865c, 95, 162–165. Type species C. ocellatus, designated by Bastian in letter to Stiles, dated March 22, 1904.

cellatus Bastian, 1865c, 163, pl. 13, figs. 210–212a. ♀♂
coccus Bastian, 1865c, 163, pl. 13, figs. 213–214. ♀
ornatus Bastian, 1865c, 163–164, pl. 13, figs. 215–216. ♀
punctatus Bastian, 1865c, 164, pl. 13, figs. 217–218. ♂
striatus Bastian, 1865c, 164, pl. 13, figs. 219–220. ♀
gracilis (Eberth, 1863) Bastian, 1865c, 165. ♀♂ [Not observed by Bastian.]

Cyathostoma E. Blanchard, 1849a, March, 182–185. Cyathostoma lari Blanchard, 1849a, 182–185, pl. 7, fig. 5, only species, hence type.

This species is figured in Cuvier's Règne Animale (Masson's Ed., 1836–49), v. 20 (Zoophytes), pl. 25, figs. 6, a–b, and short description of figures given. It is also mentioned in Voyage en Sicile, Vers, pl. 23, fig. 5.


Molin, 1861, only species, hence type. Renamed Cylichnostomum.

[Not Cyathostoma E. Blanchard, 1849a, nematode.]

cygni Molin, 1858, 154.

1858: Echinocephalus.

cygnioides Metschnikoff, 1867, Aug. 26, 542–543, pl. 31, figs. 9–11.

1867: Rhahdogaster (type).

Cylichnostomum Looss, 1902, 38, 86–132; =Cyathostomum Molin, 1861, renamed; hence type species Cyathostomum tetraacanthum.

1861: Cyathostomum Molin, 1861 [not Cyathostoma Blanchard, 1849], type C. tetraacanthum.

1903: Cylichnostomum Gedelst, 1903a, 56, 92. For Cylichnostomum.

Cylicolaimus de Man, 1889, 1–2. C. magnus (Villot, 1875), only species, hence type.

Cylicostomum Gedelst, 1903a, 56, 92. For Cylichnostomum.

cylindrica von Linstow, 1883, 289–290, pl. 7, fig. 21.

1883: Aproca (type).

Cylindrolaimus de Man, 1880, 34–35. Type species C. communis, designated in letter from de Man to Stiles, dated Nov. 30, 1903.

communis de Man, 1880, 34. ♀♀ Type.

melancholicus de Man, 1880, 35. ♀♂


eytica Rudolphi, 1819a, 634–635.

1819: Filaria. 1851: Agamonema.

Cystidicola G. Fischer, 1798b, mars, 98; 1798a, 306, fig. 7; 1799a, 95–100; pl. 2, figs. 1–6. C. farionis Fischer, 1798, only species, hence type. Also type by abso-
lute tautonymy Fissula cystidicola.

6328—No. 79—05——7
Cystidicola G. Fischer—Continued.

1801: Fissula Lamarck. Type by inclusion Cystidicola farionis.
1801: Ophiostoma Rudolphi. Type by inclusion Cystidicola farionis.
1839: Ophiostoma Creplin. Ophiostoma Rudolphi, 1801, renamed.

cystidicola Lamark, 1801, 339; =farionis Fischer, 1798, renamed.


1819: Spirotera. 1845: Diapharagus. 1866: Anclyracanthus.

Cystocephalus Railliet, 1899a, 1302; =Globocephalus Molin, 1861, renamed; hence type Globocephalus longuemuncronatus Molin, 1861. See Globocephalus and Characostomum.

[Not Cystocephalus Léger, 1892.]


Cystopsis Wagner, 1867, 6. [Not accessible to us; given on authority of Scudder, 1884, 90, who quotes from Marschall.] Probably acipeneri is only species, hence type. Not being able to obtain Wagner, 1867 (probably not published until later), we are unable to state which is the original orthography.

Cystopsis Melnikoff (1872) 1875, 6. [Not accessible to us, see Cystopsis.]

Dachmius, 1862, Veterinarian, Lond. (416), v. 35, 4. s. (92), v. 8, Aug., 549-556. Missprint for Dochnius.

Dacnitis Dujardin, 1845a, 267-272. Type species ?D. esuriens by virtual tautonymy, very common, and because of host, or ?sphecocephala by inclusion.

1900: Dacnitis von Linstow, 1900, 130. Misprint. abbreviata (Rudolphi, 1819) Dujardin, 1845a, 269. ♀♀ Not examined by Dujardin, but cited with reserve.

globosa Dujardin, 1845a, 269. ♀♀ Includes Cucullanus truttae Fabricius, 1794, 30-33, pl. 3, figs. 9-12, and Cucullanus globosus Rudolphi, 1809a, 115, p. p. esuriens Dujardin, 1845a, 270. ♀♀ Includes Cucullanus heterochrous Rudolphi, 1809a, 114, Cucullanus heterochrous Creplin, 1839a, 280, and Cucullanus platessa, and Cucullanus soleus Rudolphi, 1819a, 22.


sphecocephala (Rudolphi, 1809) Dujardin, 1845a, 271-272. ♀♀ Includes Pleuronichus Nan, 1787, 471, Aseris sphecocephala Rudolphi, 1809a, 188, Ophiostoma sphecocephalum Rudolphi, 1819a, 61, 305.

squali Dujardin, 1845a, 272. ♀♀

Daectylus Curling, 1839a, 274-287. D. aculeatus Curling, 1839a, 274-287, pl. 4, figs. 1-5, only species, hence type. An annelid.

[Not Daectylium Megerle, in Scudder, 1884, mollusk.]

daectylus Dujardin, 1845a, 654; for daectylus Rudolphi, 1819a.

1845: Aseris. [1845: Atractis (type).]

daectylus Rudolphi, 1819a, 40, 272, 581. See also daectyla.

1819: Aseris. [1845: Atractis (type).]

Dacnitis von Linstow, 1900, 130. Misprint for Dacnitis.

daishi von Linstow, 1898, 286-290, pl. 22, figs. 13-20.

1898: Cloacina (type).


darvinii Bastian, 1865c, 126, pl. 10, figs. 109-111.

1865: Tylenchus (type).

decorus Dujardin, 1845a, 78, pl. 3, fig. K.

1845: Diapharagus, 1851: Histiocephalus.

Deleetrocephalus Diesing, 1851a, 82, 298. D. dimidiatus Diesing, 1851a, 298, only species, hence type.
Demonema Cobb, 1894c, Apr. 13, 392–394. D. rapax Cobb, 1894c, 393–394, figs. 5, i–iv, only species, hence type.
dentatum Molin, 1861, 459–460, pl. 1, fig. 7.
1861: Eucyathostomum.
dentatus Rudolphi, 1803a, 12–13.
1803: Strongylus. [1861: Esophagostomum subulatum (sub) (type).]
dentatus Diesing, 1839a, 232–233, pl. 15, figs. 9–19.
1839: Stephanurus (type).
denticulatus Rudolphi, 1809a, 249–250, pl. 12, figs. 1–2. Includes Gaezia inermis.
1809: Lorihynchus.
demudatus Dujardin, 1845a, 81, pl. 3, fig. G.
1845: Diaphragus. 1851: Hiatocephalus.
Deontolaimus de Man, 1880, 3–4. D. papillatus de Man, 1880, 4, only species, hence type.

depressus Dujardin, 1845a, 112–113.
1845: Strongylus. 1861: Metastrongylus.

dermatozea Schneider, 1866, 29, 123–124. D. veligera (Rudolphi, 1819) Schneider, 1866, 123–124, pl. 12, fig. 4, only species, hence type.

dermofilaria Rivolta, 1884, 128–134. D. irritans Rivolta, 1884, 128–134, only species, hence type.

desmodora de Man, 1889, 9. Type by original designation (de Man, 1889, 9) D. communis (Buetschli, 1874).


doesmoscelis Claparède, 1863a, 89–90. D. minutus Claparède, 1863a, 89–90, pl. 18, figs. 4–7, only species, hence type.

diaphanocephalus Diesing, 1851a, 52, 297–298. Type species? D. stronygloides.
stronygloides Diesing, 1851a, 297. ♀ Strongylus galeatus Rudolphi, 1819a, renamed. Host Podinema teguin, Brazil.
costatus (Rudolphi, 1819) Diesing, 1851a, 297–298. ♀ Hosts Lachesis rhomboidea and Hylophilis levicollis.

viperix (Rudolphi, 1819) Diesing, 1851a, 298; sp. inq.


[Not Dicelis Stimpzs., 1857, worm.]
dicentrocephalus Diesing, 1861a, 727; for Dikentrocephalus Wedl, 1855; hence type species Dikentrocephalus cribalis.
diceras Rudolphi, 1810a, 258; = Ditrochyceros Hermann in Sultzer, 1801, renamed.

Diceras rude Rudolphi, 1810a, 258–261, pl. 12, fig. 5, only species, hence type.

[Not Diceras Lamarek, 1803, mollusk; Diceros Gray, 1821, mammal.]
dicheilonema Diesing, 1861a, 620, 707–709. Type species? D. labiatum. Diesing separated from Filaria the following species:

bijdum (Molin, 1858) Diesing, 1861a, 707. ♀
bilabiatum (Diesing, 1851) Diesing, 1861a, 707. ♀ Host Sternia leucopareia.


conicum (Molin, 1858) Diesing, 1861a, 708. ♀
labiatrunecatum (Molin, 1858) Diesing, 1861a, 708. ♀

labiatum (Creplin, 1825) Diesing, 1861a, 708. ♀ ♀ Host Ciconia nigra.
rubrum (Leidy, 1856) Diesing, 1861a, 708. Sexes not given in 1856.
Dicheilostomi Diesing—Continued.

Dicheilostomi Diesing, 1851a, 204, 276–278. Subsection of Cheilostomi of Filaria. See Dicheilonema.


Dichingii Molin, 1858, 151–152.

1858: *Cosmocephalus* (type).

Dikentrocephalus Wedl, 1855, 384–385, 394. *D. crinalis* Wedl, 1855, 384–385, 394, pl. 3, figs. 18–20, only species, hence type.

1861: *Dicrocephalus* Diesing, 1861a, 727; for *Dikentrocephalus*.

Dimidiatus Diesing, 1851a, 298.

1851: *Delectrocephalus* (type).

Dioctophyme Scudder, 1882, 99. Misprint for *Dioctophyme*.

Dioctophyme Collet-Meygret, 1802a, 458–464, figs. 1–4. *D. renale* (Geeze, 1782) Stiles, 1901, only species, hence type.

1851: *Eustrongylus* Diesing, 1851a. Type *Dioctophyme renale*.

1884: *Dioctophyme Scudder, 1884, 99. For *Dioctophyme*.

Collet-Meygret used only the generic name.


[Not *Dipeltis* Packard, 1885, crustacean.]

Minor Cobb, 1891c, 156.

Cirratus (Eberth, 1863) Cobb, 1891c, 156–157. Type of *Discophora*, 1875 [not 1836].

Typicus Cobb, 1891c, 157–158, figs. 9, i–iv.

In this genus Cobb has indicated the type by the specific name *typicus*, and this indication should stand despite the fact that *Dipeltis* includes the type (*cirratus*) of an earlier genus (*Discophora*). See p. 30. A personal letter from Cobb, dated March 28, 1904, shows us that it was Cobb's original intention to use *typicus* as type.

Dipetalonema Molin, 1858, 373.

1858: *Filaria*. [1861: *Dipetalonema*.]

Dipetalonema Diesing, 1861a, 620, 703–704. Type probably *Filaria caudispina*.

Caudispina (Molin, 1858) Diesing, 1861a, 703–704. ♀ ♀ Hosts Ophis, Thamnobius, and Boa.

Horridum (Diesing, 1851) Diesing, 1861a, 709. ♀ ♀ The subsection *Dicheilostomi*, 1851, which was later (1861) raised to generic rank, originally contained *Filaria labiata, F. physalura, F. obtuso-caudata, F. bilabiata, F. acuta, F. horrida*, and *F. bi-spinosa*. By the principle of virtual tautonymy *bilabiata* would first come into consideration as type, but such a choice is contraindicated by the lack of details given for this worm in both 1851 and 1861. The history of the genus strongly indicates *F. labiata* as type, unless there are other reasons why this should not be taken. *F. labiata* was the best-known species in 1851.

Dicheilostomi Diesing, 1851a, 204, 276–278. Subsection of Cheilostomi of Filaria. See Dicheilonema.
DIPLOGLAETER Max Schultze in Carus, 1857a, pl. 8, fig. 1. D. micsans Schultze in Carus, 1857a, pl. 8, fig. 1, only species, hence type.


Diplolaimus (‘date) for Diplolaimus. See Seudder, 1884, 100.

[Not Diploclammi Bell, 1843, reptile.]

Diplolaimus von Linstow, 1876, 16–17. D. gracilis von Linstow, 1876, 16–17, pl. 2, fig. 38, only species, hence type.

Diplodon Molin, 1861, 435, 471–475. Type species D. mucronatum Molin, 1861. [Not Diploclodon Spix, 1827, mollusk; not Nitzsch, 1840, bird; not Diploclodon Marschall, 1873, for Diapiloilodon Gervais, 1850; not Diploclodon Roth, 1901, mammal; not Diploclodon Gervais, 1850, mammal; not Diploclontota Bronn, 1831, mollusk; not Diploclontus Dug., 1834, arachnoid.]

mucronatum Molin, 1861, 474–475, pl. 3, fig. 1. quadridentatum Molin, 1861, 475, pl. 3, fig. 2.

Molin examined and figured both species; the description of the male is based upon D. mucronatum and that of the female upon D. quadridentatum. As the male is more important in this group than the female, mucronatum should be taken as type. Further, Molin (1861, 471) practically states that mucronatum was his type.


1891: Dipeltis Cobb, 1891c, 155–158 [not Packard, 1885, coleopteron].

Dipodium Bosc, 1812a, 72–73. D. apiarium Bosc, 1812a, 72–73, pl. 1, fig. 3, only species, hence type.

5ipsaci ‘Kühn, 1857a, 129.’


Discophora Villot, 1875, 463. Enoplus cirrhiatus Eberth, 1863a, 34–35, pl. 2, figs. 20–22; pl. 4, fig. 17; pl. 5, fig. 4, only species, hence type. See Dipeltis and Diplopetelis.

[Not Discophora Boisduval, 1836, lepidopteron; not Discophorus Chevrolat, 1880, insect.]

disjuncta Bastian, 1865c, 98, pl. 9, figs. 12–13.

1865: Monhysteria.

dispar Bastian, 1865c, 97, pl. 9, figs. 1–2.

1865: Monhysteria.

Dispharagus Dujardin, 1845a, 42, 69–82. Type by inclusion Spiroptera anthurus. For discussion of this very complicated case, see p. 48.

distans Rudolphi, 1809a, 128–129.


Ditrachyceros Hermann in Sultzer, 1801, 1–52, pls. 1–2.

1801: Ditrachyceros Hermann in Sultzer, 1801, 9. Corrected to Ditrachyceros.

1809: Ditrachycerosoma and Ditrachycerosoma Brera, 1809a, 140–145, figs. 11–13.

1810: Ditrachyceros Sultzer, 1802, of Rudolphi, 1810a, 258.

1810: Dicercas Rudolphi = Ditrachyceros renamed.

No specific name is used, but Sultzer translates Ditrachyceros into Bicorne rude. The name Ditrachyceros is used as a generic name.

Docmius Dujardin, 1845a, 267, 275-279. Type by inclusion Uncinaria vulpis Frölich. See Uncinaria.
1845: Docmius Dujardin, 1845a, 114. Misprint for Docmius.
1862: Docmius. Misprint for Docmius.
1902: Docmius Looss, 1902, Apr. 5, 424. Misprint for Docmius. Docmius originally contained the only two species which up to 1845 had ever been placed in the genus Uncinaria. It is therefore a deliberate and unjustified renaming of a preexisting genus. On this account Docmius drops into synonymy and takes the same type as Uncinaria.

Docmius Dujardin, 1845a, 114. Misprint for Docmius.
Docmius Dansino, 1878, 616. Misprint for Docmius.
Dolicohalaimus de Man, 1888, 31-34. D. marioni de Man, 1888, 32-34, pls. 2, 3, fig. 15, only species, hence type.
dolicura de Man, 1876, 177-179, pls. 11, 12, figs. 46, a-c.
1876: Monhytera. 1880: Alaimus.
dolicurus de Man, 1880, 32-33.
1880: Prissmatolaimus.
Donylaimus von Linstow, 1876, 17. Misprint for Dorylaimus.
Dorylaimus Molin, 1861, 471. Misprint for Dorylaimus.
Dorylaimus Dujardin, 1845a, 230-231. Type species probably D. stagnalis.
1876: Donylaimus van Linstow, 1876, 17. Misprint for Dorylaimus.
stagnalis Dujardin, 1845a, 231, pl. 3, fig. C. ¿ ♀
marinus Dujardin, 1845a, 231, pf. 3, fig. D. ♀
Other things being equal, stagnalis should be type, as Dujardin describes both male and female of this species, while of marinus he describes only the female.
dorylaimus Marion, 1870, 27, pl. H, fig. 2.
1870: Thoracostoma.
dracunculoides Cobbold, 1870b, 10-14.
1870: Acanthocheiltonema (type).
Dracunculus "Kempfer, 1712a, 524-535." Pre-Linnean.
Dracunculus Knhiph, 1759, 12 [not accessible to us], or Gallandat, 1773a, 103-116, "Dracunculus sive Vena medinensis" only species, hence type. Also type by absolute tautonymy, see dracunculus. Some doubts may arise as to whether this was a valid generic name in 1759 and 1773.
1773: Vena Gallandat, 1773a. Type Vena medinensis.
1792: Nerve Laporte. Type medicinensis.
[Not Dracunculus Wiegm., 1834, reptile.]
dracunculus Bremer, 1819a, 194-221, pl. 4, fig. 1. For medicinensis Linneus, 1758a.
1819: Filaria.
duodenale Dubini, 1843a, 5-13, pls. 1, figs. 1-5; pl. 2, figs. 1-3.
dussumieri van Beneden, 1870a, 362-363; "simplex" Rudolph, 1809," of Dujardin, 1845a, 220-221, renamed.
[1845: Ascaris (Anisakis [type]).]
DETERMINATION OF GENERIC TYPES, ETC.


[Not *Dyacanthus* Siebold, 1817, worm; Latreille, 1834, coleopteron; *Dyacantha* Swainson, 1839, fish; Chev., 1834, coleopteron.]

*Dryachiceros* Hermann in Sultzer, 1801, 9. Corrected to *Ditrachyceros* Hermann in Sultzer, 1801, 42. Mentions no specific name.

Eberthi Bastian, 1865c, 141, pl. 11, figs. 143–145.

1865: *Anticoma* (type).

*echinatus* Rudolphi, 1809a, 98–100. Includes spirillum Pallas, 1781, 111, and lacertx Schrank, 1788, 5.


*Echinocephalus* Molin, 1858, 154. *E. uncinatus*, only valid species, hence type; also type by virtual tautonymy and page precedence.

[Not *Echinocephalus* E. Schneider, 1875, protozoon.]

cygni Molin, 1858, 154; species inquirenda.

*echinodiscus* Diesing, 1851a, 36, 554.


*echinodon* Marion, 1870, 26, pi. H, fig. 1.

1870: *Thoracostoma* (?) type.

*Echinonema* von Linstow, 1898, 20, Oct., 672. *Hoplocephalus cinctus* von Linstow, 1898, 469, only species, hence type. *Hoplocephalus* von Linstow, 1898 (not Cuvier, 1829, reptile), renamed.


*Echinorhynchus* Zega in Mueller, 1776, xxviii, 214–215. Type species? *E. gadi* or *E. levis*.

1779: *Echynoryngus*. [Not accessible to us.]

1839: *Echinorhynchus* Creplin, 1839a, 283. For *Echinorhynchus*.

1840: *Echinarhycus* Nordmann, 1840, 641. For *Echinorhynchus*.

[?] *Echinorhynchnus, Echinorhynchus, Echinoryncus, Echinoryngus*.

cuatria Mueller, 1776, 214. To *Cucullanus* by Mueller, 1779, 100.


candidus Mueller, 1776, 214. [Renamed *Echinorhynchus acus* Rudolphi, 1802, 51; = *Proboscidea versipellis*.]

levis Mueller, 1776, 215. [Probably includes *Echinorhynchus tereticollis* and *E. nodulosus*.]

*Echinorhynchus* Creplin, 1839a, 283; = *Echinorhynchus* renamed.

*Echinoryngus* [?], 1779, 543. [Not accessible to us.]

echiurus Diesing, 1853a, 34.

1853: *Mustophorus* (probably type).


*elegans* de Man, 1888, 16–17, pl. 1, fig. 9.

1888: *Aneolaimus*.

eleaviga Rudolphi, 1819a, 26, 246.

[1811: *Acularia.*] 1819: *Spiroptera.*
Elongata Buetschli, 1874b, 270–271, pl. 4, figs. 18, a–d. 1874: Oxyystoma (type).

Elongatum Bastian, 1865c, 145, pl. 12, figs. 156–157. 1865: Leptosomatum (type).

Elongatus Dujardin, 1845a, 234. 1845: Enoplus. [1851: sub Amblyura gordius?]

Elongatus Bastian, 1865c, 155, pl. 12, figs. 180–181. 1865: Lihomoeus.


Enchelidium Ehrenberg, 1836, 40–41, 57. E. marinum (Mueller, 1783) Ehrenberg, 1836, 40–41, 57, only species; hence type; = Vibrio marinus Mueller. 1845: Enoplus (type). 1845: Enoplus. [1851: sub Amblyura gordius?]

Enoplus Bastian, 1865c, 155, pl. 12, figs. 180–181. 1865: Lihomoeus.

Encyclidium Ehrenberg, 1836, 40–41, 57. E. marinum (Mueller, 1783) Ehrenberg, 1836, 40–41, 57, only species; hence type; = Vibrio marinus Mueller. 1845: Enoplus (type). 1845: Enoplus. [1851: sub Amblyura gordius?]

Enoplus Bastian, 1865c, 155, pl. 12, figs. 180–181. 1865: Lihomoeus.

Enoplus de Man, 1893, 118–122. E. vulgaris de Man, 1893, 119–122, pl. 7, fig. 13, only species, hence type.

Enoplus Marion, 1870, 22–25. Type species probably E. hirtum.

hirtum Marion, 1870, 22–23, pl. F, figs. 1–1x. ♂ ♀ [Very common.]

minus Marion, 1870, 23–24, pl. G, figs. 1–1h. ♂

brevicaudatum Marion, 1870, 24–25, pl. G, figs. 2–2e. ♀

Enoplus Dujardin, 1845a, 230, 233–235, 653. Type species probably E. tridentatus Dujardin, 1845a, 233–234.

[Not Enoplus Reiche, 1859, coleopteron; Enoplus Agassiz, 1846, for Enoplosus Lacép., 1802, fish; Anoplus Schönh., 1826, coleopteron; Gray, 1840, reptile; Schl., 1842, fish.]

Enoplus Bastian, 1865c, 121.}

Enoplus Dujardin, 1845a, 230, 233–235, 653. Type species probably E. tridentatus Dujardin, 1845a, 233–234.

[Not Enoplus Reiche, 1859, coleopteron; Enoplus Agassiz, 1846, for Enoplosus Lacép., 1802, fish; Anoplus Schönh., 1826, coleopteron; Gray, 1840, reptile; Schl., 1842, fish.]

Tricentus Dujardin, 1845a, 3, 653.

teidatus Dujardin, 1845a, 233–234. ♂ ♀ (? Type.)

stenodon Dujardin, 1845a, 234. Sex?

Elongatus Dujardin, 1845a, 234. Sex? [Sp. inq. according to Diesing, 1851a, 125; to Amblyura as doubtful by Diesing, 1851a, 127.]

microstomus Dujardin, 1845a, 234–235. Sexes?

rivalis Dujardin, 1845a, 235. ♀ [To Plectus by Bastian, 1865c, 121.]

crassiusculus Dujardin, 1845a, 235, as doubtful. ♂ [To Mononchus by Bastian, 1865c, 103.]

Unless other considerations call for some other species as type, it will be best to take E. tridentatus as such. See Tricentus.

Entomelas Dujardin, 1845a, 262–263, pl. 4, fig. C. 1845: Angiostoma.


equi Schrank, 1785, 4.

1788: Trichoecephalus. [1803: Oxyuris curvula (type).]

equinus Mueller, 1780 or 1784, 6. [Sherborn gives 1784, 6.]

1780 or 1784: Strongylus (type). [1809: Sclerostoma (type).] [1845: Scleros-}

tomum (type).]


curiens Dujardin, 1845a, 270. 1845: Dacnitis (? type, see also spherocephala).

Ethmolaimus de Man, 1880, 21–22. E. pratensis de Man, 1880, 22, only species, hence type.
**Etholaimus.** We have been unable to trace this word. Possibly it is a misprint for *Ethmolaimus*.

*Eusocrichus* Greel, 1859a, 117–118. Type species? *E. filiformis*.

*filiformis* Greel, 1869a, 117–118, pl. 7, figs. 1–4. ♀

*phalacerus* Greel, 1869a, 118, pl. 7, figs. 5–6. ♂

*Eunemptus* Dujardin, 1845a, 106–107. *E. obtusus* Dujardin, 1845a, 107, only species, hence type.

[Not *Eunemptus* Chev., 1833, coleopteron; Dej., 1833, coleopteron.]

*Euchromadora* Leuckart, 1867, 31; probably misprint for *Euchelidium*.

*Euchromadora* de Man, 1886, 66, 67–76. *E. vulgaris* (Bastian, 1865) de Man, 1886, 69–76, pl. 12–13, only positive species, hence type. (See also *Chromadora*; also type by original designation.

*Eucoleus* Dujardin, 1845a, 3, 23–25. Type species probably *E. xerophilum*.

[Not *Eucoleus* Mull., 1853, coleopteron.]

*xerophilum* (Creplin, 1839) Dujardin, 1845a, 24. ♀ (Description more complete.)

*tennis* Dujardin, 1845a, 24–25. ♀ (Description less complete.)

*Eucyathostomum* Molin, 1861, 435, 455–463. Type species by present designation *E. longesubulatum*.

*dentatum* Molin, 1861, 459–460, pl. 1, fig. 7. ♀

*longesubulatum* Molin, 1861, 460–462, pl. 2, figs. 1–2. ♀ (Type.)

*copulatum* Molin, 1861, 462–463. ♀

Molin examined all three forms, and figured the first and second. He definitely states that his anatomical description is based upon *E. longesubulatum*, from *Cercus campestris* and *C. rufus*, on which account we designate this species as type. The designation of *E. dentatum* as type would be more likely to lead to confusion.


[1811: *Acuaria.*] 1819: *Spiroptera*.

*Eurystoma* Marion, 1870, 19–21. Type species *E. spectabile*.

[Not *Eurystoma* Rafinesque, 1818, mollusk; not *Eurystoma* Alb., 1850, mollusk; not *Eurystoma* Koell., 1853, coleopteron; not *Eurystoma* Gisl., 1829, coleopteron; not *Eurystoma* Koch, 1840, arachnoid; not *Eurystomus* Young, 1866, fish.]

*spectabile* Marion, 1870, 20–21, pl. E, figs. 1–1b. ♀ (Type.)

*tenue* Marion, 1870, 21, pl. E, figs. 2–2b. ♀

As the generic name *Eurystoma* Marion falls under the rule of homonyms, it is immaterial which species is designated as type, except as such designation may possibly affect later established nontypical genera; we here designate *spectabile* because both sexes were described, and on account of page precedence.

*Eustrongyulus* Diesing, 1851a, 82, 325–328. Includes *Diectophyme*, 1802; hence type species *Eustrongyulus gigas* = *Diectophyme renale*.

*exigua* Goeldi, ? "1887"; 1889a, 28, Feb., 206; 1892a, 68.


*elixis* Dujardin, 1845a, 29–30.

1845: *Liniscus* (type).

*elixis* Marion; 1870, 11–12, pl. A, fig. 1.

1870: *Lasionitius* (type).

*falcatus* Gmelin, 1790a, 3040. See under *Filaria*.

1790: *Filaria* (type).

*fariensis* Fischer, 1798a, 304–309, fig. 7; 1798b, 98; 1799a, 95–100, pl. 2, figs. 1–6.

1798: *Cystidicola* (type). [1801: *Ophiostoma* (type).] [1801: *Fissula* (type).]

1845: *Dispharagus*. 

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*Euthypharynx.* We have been unable to trace this word. Possibly it is a misprint for *Etholaimus*.
In 1865: Lamarck

In 1894:

Mueller,

ences

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Leptosomatum.

Filaria Rudolphi, 1809a, 69. Misprint for Filaria.

Filaria Mueller, 1787, 64-67. Type species by elimination F. martis.

In the original reference Mueller (1787) does not give any specific names in connection with this genus, but he gives a number of bibliographic references arranged under their respective hosts. The species in question, so far as they can be determined by a comparison of Mueller, 1787, and Gmelin, 1790a, are as follows:

A. In Mammals:

leonis Gmelin, 1790a, 3040. [Sp. inq., in Rudolphi, 1809a, 68; Diesing, 1851a, 280; Molin, 1858, 421; Stossich, 1897, 71.]

leporis Gmelin, 1790a, 3040. [Sp. inq., in Rudolphi, 1809a, 69; Diesing, 1851a, 280; Molin, 1858, 421; Stossich, 1897, 72.]

martis Gmelin, 1790a, 3040. [Renamed "Filaria" mustelarum Rudolphi, 1809a, 69; Filaria mustelarum subcutanea Rudolphi, 1819a, 7, 216; F. quadrispina Diesing, 1851a, 271-272; see also F. perforans, Molin, 1858, 387; see also Stossich, 1897, 32.]

B. In Birds:

gallina Gmelin, 1790a, 3040. [See Capillaria semiteres Zeder, 1803a, 61; Hamularia nodulosa Rudolphi, 1809a, 84; Trichosoma longicolle Rudolphi, 1819a, 14, 221.]

falconis Gmelin, 1790a, 3040. [Renamed Filaria falconum Rudolphi, 1809a, 70, sp. dub.; see also F. foreolata Molin, 1858, 375; see also P. nodispina Molin, 1858, 402.]

ciconia Gmelin, 1790a, 3040. [See Dicheilonea labiatum.]

C. In Insects: [Probably all Gordiiidae or Mermithidae.]

scarabaei Gmelin, 1790a, 3040.

carabii Gmelin, 1790a, 3040.

silphae Gmelin, 1790a, 3040.

grylli Gmelin, 1790a, 3040.

monoculi Gmelin, 1790a, 3041.

lepidopterorum Gmelin, 1790a, 3041.

tenhredinis Gmelin, 1790a, 3041.

phryganex Gmelin, 1790a, 3041.

Lamarck (1801, 340) mentions only 1 species, namely, Filaria equi Mueller, but this can not be taken as designation of type, since Mueller did not include it in his original (1787) species. Since Mueller distinctly intended to separate Filaria from Gordius, and since all the forms he mentions for insects probably belong to the Gordiiidae or Mermithidae, and some of them have already been eliminated from Filaria, it will be best not to consider the insect parasites in determining the type of Filaria; such a procedure of exclusion is further justified by the tendency since Mueller's time to look upon Filaria as a genus parasitic in warm-blooded animals; it also agrees with the principle of page precedence.

In considering the 6 remaining species (3 from mammals and 3 from birds), it may be noted that F. gallineae and F. ciconiae have already been eliminated; further, F. leonis and F. leporis are viewed as doubtful species, hence these may next be eliminated from consideration. There now remain F. martis and F. falconis. Of these two, conditions clearly favor the selection of F. martis (see F. quadrispina Diesing).
filaria Dujardin, 1845a, 108, pl. 3, fig. H.
1845: Dicelis (type).
filaria van Beneden, 1873b, 21, pl. 5, figs. 1–5.
1873: Litosoma (type).
Filarina Hammerschmidt, 1838a, 351, 358. F. vitrea Hammerschmidt, 1838a, 358, pl. 4, figs. a–b, only species, hence type.
Filaroides van Beneden, [“1858a, 267–269”]; 1861a, 267–269. F. mustelarum, only species, hence type.
filiforme Molin, 1857, 220–222, figs. 7–9.
1857: Gongylonema.
filiformis Bastian, 1865c, 98, pl. 9, figs. 7–8.
1865: Monhysteria.
filiformis Bastian, 1865c, 169, pl. 13, figs. 242–244.
1865: Chromadora.
filiformis Greef, 1869a, 117–118, pl. 7, figs. 1–4.
1869: Euboctrichus (? type).
filiformis de Man, 1889, 3–4.
1889: Azomolaimus.
Filocapsularia Deslongchamps, 1824q, 398–400. F. communis Deslongchamps, 1824q, 399–400, only species, hence type; which includes a number of previously named species.
Filoria Nordmann, 1832, 11. Misprint for Filaria.
filum Dujardin, 1845a, 135 [includes major Raspail, 1829].
1845: Pseudulus (type).
Fimbria Cobb, 1894c, Apr. 13, 420–421. F. tenius Cobb, 1894c, 420–421, figs. 14, i–iv, only species, hence type. See Fimbriilla.
[Not Fimbria Bohadsch, 1761, mollusk; Meg., 1811, mollusk; Risso, 1826, mollusk; Belon, 1806, insect; Fimbriaria Frelich, 1795, cestode.]
Fissula Lamarck, 1801, 339. Type by inclusion Cystidicola farionis Fischer, 1798. See Cystidicola.
intestinalis (Bloch, 1782) Lamarck, 1801 [= Gordius intestinalis Bloch].
cystidicola Lamarck, 1801 [= Cystidicola farionis Fischer, 1798 (type of Cystidicola) renamed].
Lamarck (1816, Aug., 210) says: "Je crois être le premier qui ait senti la nécessité de séparer des ascarides, le ver que Muller a nommé Ascaris bifida. J'en ai formé un genre particulier dans mes leçons, sous le nom de fissule. Ce genre fut ensuite reconnu, mais diversement nommé par les auteurs. En effet, quelque années après, M. Fischer l'établit sous la dénomination de Cystidicola, d'après une nouvelle espèce qu'il fit connaître; enfin, le docteur Rudolphi, reconnaissant aussi le même genre, lui assigna le nom d'Ophistoma."
We have been unable to find Fissula prior to Lamarck, 1801, and in this publication Lamarck does not mention Ascaris bifida, which he refers to in 1816, 211, as synonym of Fissula phoce. In 1816, he does not mention F. intestinalis. From these data it is not clear to us how A. bifida can be accepted as type of Fissula, 1801.
Our view in taking farionis as type of Ophistoma, thus making Cystidicola, Fissula, and Ophistoma synonymous, is in harmony with the synonymy of Blainville, 1824a, 518.
fusiformis Dujardin, 1845a, 5, 211.
1819: Filaria. 1861: Ichthyonema.

fusiformis Molin, 1858, 415.
1858: Filaria. 1861: Dichelonema.
fusiformis Bastian, 1865c, 121, pl. 10, figs. 95, 96.
1865: Plectus.
1776: Echinorhynchus (? type).
galeatus Rudolphi, 1819a, 648-649; = strongyloides Diesing, 1851a.
1819: Strongylus. 1845: Sclerostoma. [1851: sub Diaphanoccephalus strongyloides (? type).]
gemmatus Villot, 1884. [Not accessible to us.]
1884: Gordius. 1897: Parachordodes.
gibbosa Rudolphi, 1809a, 167-168. Includes Fusaria strumosa Zeder, 1800a.
gibbosum Leuckart, 1886, 743-746.
1886: Asconema (type). 1887: Atractonema (type).
gibbosus Rudolphi, 1819a, 639.
1819: Trichocephalus. [1851: Oncophora (type).]
Gigantorhynchus Hamann, 1892d, 196. Type species G. echinodiscus (Diesing, 1851)
Hamann, 1892d, 196. Designated by Hamann in letter to Stiles, dated
Nov, 29, 1903.
echinodiscus (Diesing, 1851) Hamann, 1892d, 196.
**Gigantorhynchus** Hamann—Continued.

*tenoioides* (Diesing, 1851) Hamann, 1892d, 196.

*spira* (Diesing, 1851) Hamann, 1892d, 196.

*gigas* (Bloch, 1782) Hamann, 1892d, 196, as probable member of this genus. ♀♀

*gigas* Bloch, 1782a, 26–27, pl. 7, figs. 1–8. [Bloch appeared prior to Geze.]

1782: *Echinorhynchus.* 1892: *Gigantorhynchus.*

*gigas* Rudolphi, 1802, 2, 42, pl. 1, fig. 2. [Not accessible to us.]

1802: *Strongylus.* [1802: *Dioctophyme* (type).] 1851: *Eustrongylus* (type).

*glaber* Bastian, 1865c, 138, pl. 11, figs. 129–130.

1865: *Oncholaimus.* 1890: *Oncholaimus* (Viscosia).

*globocephs* Rudolphi, 1819a, 7, 215.


*globocephs* de Man, 1880, 15–16.

1880: *Microlaimus* (type).

*globoidea* Fabricius, 1780a, 268.


*globocephalus* Diesing, 1853a, 54.

1853: *Mastophorus.*

*Globocephalus* Molin, 1861, 436, 534–537. *G. longemucronatus* Molin, 1861, 536–537, pl. 6, figs. 3–4, only species, hence type. See also Characostomum.


*globosus* Zeder, 1800a, 94–96; Rudolphi, 1809a, 111.

1800: *Cucullanus.*

*globus* Dujardin, 1845a, 269. [See also *Cucullanus globosus* Zeder, 1800a, 94.]

1845: *Dacentis.*

*glomerans* Bastian, 1865c, 115–116, pl. 9, figs. 16–17.

1865: *Tripyla* (type).

*glutinis* Mueller, 1783, 161; [= *anguillula* 1773 = *redievium* 1767]. See *Anquillula.*


*glycyrhiza* van Beneden, 1873b, 13–16, pl. 1, figs. 1–7.

1873: *Strongylacanthia* (type).

*Gnathostoma* Owen, 1836, 123–126. *G. spinigerum* Owen, 1836, 123–126, only species, hence type. See also *Cheiracanthus.*

*Gezia* Zeder, 1800a, 6, 96–102. Type by elimination *G. armata* Rudolphi, 1801, 57; = *Cucullanus ascaroides.*

[Not *Gezia* Boeck, 1871, crustacean; not *Gatia* Karsch, 1892, insect.]

*Cucullanus ascaroides* Geze, 1782a, 40, 134; = *Gezia armata* Rudolphi, 1801, 57.

*inermis* Zeder, 1800a, 101–102; sub *Liorhynchus* by Rudolphi, 1801.


*filiforme* Molin, 1857, 220–222, figs. 7–9. ♀♀

*spirale* Molin, 1857, 222, figs. 10–12. ♀♀


*Gordius* Linneaus, 1758a, 44, 467. Type species *G. aquaticus.*

*aquaticus* Linneaus, 1758a, 467. (Type by Linnaean rule, see p. 64.)

*argillaceus* Linneaus, 1758a, 467.

*medinensis* Linneaus, 1758a, 467. To *Dracunculus* as type, 1759 and 1773.
gordius "Mueller, 1786, 60."
gracile Leidy, 1856, 52-53.
gracile Bastian, 1865c, 145-146, pl. 12, figs. 158-160.
1865: Leptosomatum.
gracilescent Rudolphi, 1809a, 248-249.
1809: Liorhyncus.
gracilis Diesing, 1838a, 189, nomen nudum; 1839a, 225, pl. 14, figs. 8-11.
1838: Cheiracanthus. 1839: Cheiracanthus.
gracilis Leuckart, 1842, 38-39, pl. 1, figs. 11, a-c.
1842: Strongylus. 1861: Metastrongylus.
gracilis Diesing, 1851a, 145-146, pi. 12, figs. 158-160.
1851: Leptosomatum.
gracile Leidy, 1856, 52-53.
1856: Spironoura (? type).
1861: Spirura (? type).
halecis Gmelin, 1790a, 3037. Includes Gordius harangum Bloch, 1782a, 33.

1790: Ascaris. 1800: Capsularia. [1802: to Filaria by Rudolfi, 1802.]

[?]: Cucullamus.

Halichoanolaimus de Man, 1886, 66; 1888, 36-39. Spiolophora robusta Bastian, 1865c, 166, pl. 13, figs. 220-227, only species, hence type.

Hamularia Treutler, 1793, 10-13. H. lymphatica Treutler, 1793, 10-13, pl. 2, figs. 3-7, only species, hence type.


hamulosa Diesing, 1851a, 217.

1851: Spiroptera. 1861: Cheilospira (type). 1890: Dispharagus.

Hedrurus Schneider, 1866, 340. Misprint for Hedrurus.

Heduris Nitzsch, 1821, 48-49. [H. androphora (Schmalz)?] Ascaris androphora Nitzsch, 1821, 48-49, only species, hence type.

1866: Schieder Schneider, 1866, 340. Misprint.

Helicothrix Osman Galeb, 1878b, 296-298. (Subgenus of Oxyuris.) Type by inclusion Oxyuris spiroticida.

Oxyuris spiroticida Györy, 1856, 327-332, figs. 1-15. Type of Pseudonymus Diesing, 1857a.

Oxyuris hydrophili Osman Galeb, 1878b, 297, pl. 20, fig. 10.

Oxyuris hydrom Osman Galeb, 1878b, 297, pl. 25, fig. 1.

Oxyuris hydrobii Osman Galeb, 1878b, 297-298.

Heligmus Dujardin, 1845a, 136, 147-148. H. longicirrus Dujardin, 1845a, only species, hence type.

[Not Eligma Huebn., 1816, lepidopteron; corrected to Heligmus by ? [see Scudder, 1884, 143]; Heligmus Cand., 1864, coleopteron.]

Helmins Schlotheusser, 1860, 128. Nomen nudum except for habitat. It is doubtful whether this should be interpreted as a generic name.

nematoides paradoxus.

nematoides dubius.


Hemipsoleus Quatrefages, 1846, 131-182. One unnamed species. Bastian, 1865c, 172, gives three species.

hermaphrodita Frelich, 1789a, 151-155, pl. 4, figs. 11-13.

1789: Ascaris. [1845: Ascaris (Ascaridia) truncata.]

Herca Scopoli, "1777, 383." [Not accessible to us.] See also Herca.

Heteracis Molin, 1858, 149-150. Heterakia Dujardin, 1845a, renamed. Type species Heterakis vesicularis.

Heterakis Dujardin, 1845a, 136, 222-230. Type by original designation (Dujardin, 1845a, 222) H. vesicularis. (Includes Ascaris papillosa Bloch, 1782a; Ascaris teres (minor) Goze, 1782a.)

1858: Heteracis Molin, 1858, 149-150. Heterakis renamed.

Heterobolbus Railliet, 1896, 161; = Heteroderma Schmidt, 1871, renamed on account of Heteroderes Latreille, 1834. Hence type species same as Heteroderes.

Heterocephaulus Marion, 1870, 18-19. H. laticollis Marion, 1870, 18-19, pl. D, only species, hence type.

[Not Heterocephauluus Rueppell, 1842, mammal.]

Heterochelilla. See Heterochelilla under Heterochelitus.

Heterochelitus Diesing, 1839a, 229-232. H. tunicatus Diesing, 1839a, 230-232, pl. 15, figs. 1-8, only species, hence type; = Lobocelphalus heterolobus Diesing, 1838a, 189, renamed. Also type by virtual tautonymy.

[Not Heterocheila Rond., 1857, dipteron; Heterocheila for Heterochelilla Lioy., 1864, dipteron; Heterochelus Burmeister, 1844, coleopteron; Heterochelitus for Heterochelilla.]
heterochrous Rudolphi, 1802, 36-38.
1802: Cucullanus. [?]1845: Dacnitis esuriens sub.]
Heterodera Schmidt, 1871. [Not accessible to us.]
[Not Heteroderes Latreille, 1834.]
heterolobus Diesing, 1838a, 189.
1838: Lobopezaphalus (type). [1839: Heterocheilus (type).]
Heth Cobb, 1898a, Mar., 299, figs. 10, i-iv. H. juli Cobb, 1898a, 299, figs. 10, i-iv, only species, hence type.
hians Dujardin, 1845a, 270-271.
1845: Daenitis.
hirsutus Bastian, 1865c, 154-155, pl. 12, figs. 178-179.
1865: Lihomceus (type).
1865: Linhomomius (type).
hirsutus Bastian, 1865c, 157-158, pl. 13, figs. 192-194.
1865: Sphserolaimus (type).
hirsutus Cobb, 1894c, 413.
1894: Syncnchus.
hirtum Marion, 1870, 22-23, pl. F.
1870: Enoplostoma (probably type).
Histocephalus Diesing, 1851a, 80, 230-232. Type species? H. laticaudatus.
laticaudatus (Rudolphi, 1819) Diesing, 1851a, 230. ♀ ♂ Host Otis tetrax.
In Dispharagus by Dujardin, 1845a.
minutus (Rudolphi, 1819) Diesing, 1851a, 230. ♀ ♂ Host Platea fasciata.
In Dispharagus by Dujardin, 1845a.
gracilis Diesing, 1851a, 231. ♀ ♂ Includes Spiroptera bicuspis Rudolphi, 1819a, 24; in Dispharagus bicuspis, Dujardin, 1845a, 79. Host Vanellus melagonaster.
spiralis Diesing, 1851a, 231. ♀ ♂ [Includes Spiroptera obvelata Creplin.]
To Cosmocephalus alatus by Diesing, 1861a, 763.
brevicaudatus (Dujardin, 1845) Diesing, 1851a, 231-232. ♀ ♂ [= Dispharagus brevicaudatus Dujardin, 1845a, 80.] To Dispharagus as sp. inq. by Stossich, 1891, 98.
decorus (Dujardin, 1845) Diesing, 1851a, 232. ♂ ♂ In Dispharagus decorus Dujardin, 1845a, 78. Host Alceo ispida.
denudatus (Dujardin, 1845) Diesing, 1851a, 232; sp. inq.; [= Dispharagus denudatus Dujardin, 1845a, 81.]
Histiostrongylus Molin, 1861, 436, 530-534. H. coronatus Molin, 1861, 533-534, pl. 6, figs. 1-2, only species, hence type.
histrix Cobb, 1898a, March, 315, fig. 37.
1888: Xyo (type).
Hernuca Nordmann, 1840, 641. For Hernuca Gmelin.
hominis Schrank, 1788, 4; = Trichuris trichiura.
Hoplocephalus von Linstow, 1898, 469-470. H. cinetus von Linstow, 1898, 469-470, pl. 35, figs. 3-11, only species, hence type. [Name changed to Echinonema by von Linstow, 1898.]
[Not Hoplocephalus and Oplocephalus Cuvier, 1829, reptile; Hoplocephali, see Cephaloplia; Hoplocephala Macq., 1845, dipter; Heplecephala Walk., 1857, dipter; Oplocephala Lap., 1831, coleopteron; Hoplocephala (v. Heple-
cephala, Oplocephala).]
horrida Diesing, 1851a, 278. Includes Filaria rheas Owen.
1851: Filaria. 1861: Dicheilonema.
DETERMINATION OF GENERIC TYPES, ETC. 113

horridus von Linstow, 1876, 6, pl. 1, figs. 10–12.
1876: Acanthophorus.
hydrobi Osman Galeb, 1878b, 297–298.
1878: Oxyurus (Helicothrix).
hydroi Osman Galeb, 1878b, 297, pl. 25, fig. 1.
1878: Oxyurus (Helicothrix).
Hydromermis E. Corti, 1902a, 113. H. rivicola Corti, 1902a, 113, only species, hence type.
ydrophi Osman Galeb, 1878b, 297, pl. 20, fig. 10.
1878: Oxyurus (Helicothrix).
Hypodontolaimus de Man, 1886, 66; 1888, 39–44. Type species (designated by de Man, 1888, 39) H. inaequalis (Bastian, 1865).
Hystrichis Dujardin, 1845a, 290-291. H. tricolor Dujardin, 1845a, 290-291, only species, hence type.
Hystrignathus Leidy, 1850, 102. H. rigidus Leidy, 1850, 102, only species, hence type.
Ichthyonema Diesing, 1861a, 620, 698–699. Type species probably I. globiceps. globiceps (Rudolphi, 1819) Diesing, 1861a, 699. ♀♀
fuscum (Rudolphi, 1819) Diesing, 1861a, 699. ♂
congeri vulgaris (Molin, 1859) Diesing, 1861a, 699; sp. inq.
ignavus Bastian, 1865c, 104, pl. 9, figs. 34, a–b.
1865: Ironus (type).
inermis Zeder, 1800a, 101–102.
inermis Molin, 1861, 540–542, pl. 7, figs. 1–3.
1861: Kalicephalus (probably type).
infernalis Linneus, 1758a, 647.
1758: Furia (type).
inflexa Rudolphi, 1819a, 38, 268–269. [See also Fusaria inflexa Zeder, 1800a, 36–37.]
inflexum Diesing, 1861a, 704; = dipetala Molin, 1858, 373, renamed.
1861: Dipetalonema.
inflexus Rudolphi, 1809a, 227–228. See also filum.
infusorium Linneus, 1767, 1326–1327.
1767: Chaos.
insignis Diesing, 1851a, 210.
1851: Peritrichelius (type).
instabilis Railliet, 1893, 442, fig. 301.
1893: Strongylus. 1905: Trichostrongylus.
intermedia Buetschli, 1873a, 67–68, pl. 6, figs. 33, a–b.
1873: Monhystera. 1880: Prismatolaimus (type).
intestinalis Bloch, 1782a, 33, pl. 10, figs. 8–9. [Not Fabricius, 1780a, 269.]
1782: Gordius. 1801: Fissula.
intestinalis Bavay, 1877a, 266–268.
1877: Anguillula. 1879: Strongyloides (type).
Ironus Bastian, 1865c, 93, 103–104. I. ignavus Bastian, 1865c, 104, pl. 9, figs. 34, a–b, only species, hence type.
[Not Irona Schiodte, 1883, crustacean (Zool. Rec. (1883), 1884, v. 20, Index, 7); not Ironus H. W. Bates, 1872, coleopteron (Zool. Rec. (1872), 1874, v. 9, 301).]
6328—No. 79—05——8
irritans Rivolta, 1884, 128-134.

1884: *Dermofilaria* (type).

*Isacia* Diesing, 1861a, 614, 634. For *Isakis* Lespès, 1856.

*Isacus* Zool. Rec. (1896), 1897, v. 33, Verm., 42. For *Isacis*. See also *Isakis*.

*Isakis* Lespès, 1856, 335-336. *I. migrans* Lespès, 1856, 335-336, pl. 8, only species, hence type.

1861: *Isacis* Diesing, 1861a, 614, 634. For *Isakis*.


juli Cobb, 1898a, 299, figs. 10, i-iv.

1898: *Heth* (type).


*inermis* Molin, 1861, 540-542, pl. 7, figs. 1-3. ♀ ♂

*strumosus* Molin, 1861, 542. ♀ ♂

*subulatus* Molin, 1861, 543-544. ♀ ♂

*appendiculatus* Molin, 1861, 544-547. ♀ ♂

*mucronatus* Molin, 1861, 547-548. ♀ ♂

*brevipenis* Molin, 1861, 548-549. ♀


As *Kalicephalus inermis* is the only species figured by Molin, this should probably be selected as type.

*Kaschgaricus* Camerano, 1897g, 395.

1897: *Parachordodes*.

*Koleops* Lockwood, 1872, Aug., 449-454. *K. anguilla* Lockwood, 1872, 449-454, figs. 120-122, only species, hence type. Written *Coleops* in Scudder, 1884, 74.

*labiata* Creplin, 1825a, 1-4.


*Labidurus* Schneider, 1866, 29, 122-123. *L. gulosa* (Rudolphi, 1819) Schneider, 1866, 123, pl. 7, figs. 15-17, only species, hence type; = *Ascaris gulosa* Rudolphi.

[Not *Labidura* Leach, 1817, orthopteron; *Labidura* Dnm., 1806, orthoptera, supergeneric name.]

*Labwtruncata* Molin, 1858, 412.

1858: *Filaria*. 1861: *Dicheilonema*.

*Labyrinthostoma* Cobb, 1898a, Apr., 421. Species apparently not named.

*turai* Schrank, 1788, 5; = *spirillum* Pallas, 1781.


*lectus* Rathke, 1843, 238, pl. 12, fig. 16.


*laceus* Mueller, 1776, 214.

1776: *Echinorhynchus*. 1779: *Cucullanus* (?type).

*laceus* Mueller, 1776, 215.

1776: *Echinorhynchus* (?type).

*laceis* Dujardin, 1845a, 117-118.

1845: *Strongylus*. 1861: *Metastrongylus*.

*laceis* Bastian, 1865c, 160, pl. 13, figs. 204-206.

1865: *Spira*.

*lagopodis* Frollich, 1802a, 46, pl. 1, fig. 21; pl. 2, figs. 1-3.

1802: *Ascaris*. [1845: *Ascaris* (Ascaridia) compar (sub).]

*lacunensis* de Man, 1890, 186-188, pl. 4, fig. 8.

1890: *Oncholaimus* (Viscosia).
**Determination of Generic Types, Etc.**

*Laphyctes* Dujardin, 1845a, 3, 653; = *Rictularia* Frelich renamed. Hence type species *Rictularia cristata.*

[Not *Laphyctes* Reichenbach, 1850, bird; Stål, 1853, hemipteron: Faurst., 1878, hymenopteron; *Laphyctis* Loew., 1859, dipteran.]

Lari E. Blanchard, 1849a, March, 182-185, pl. 7, fig. 5.

1849: *Cyathostoma* (type).

Lasiomitus Marion, 1870, 11-12. *L. exilis* Marion, 1870, 11-12, pl. A, fig. 1, only species, hence type.

Latastei Camerano, 1895c, 8-9.

1895: *Gordius.* 1897: *Parachordodes.*

Laticaudata Rudolphi, 1819a, 24, 230-240.


Laticeps Rudolphi, 1819a, 23, 238-239.

1819: *Spiroptera.* 1845: *Dispharagus.*

Laticollis Marion, 1870, 18-19, pl. D.

1870: *Heterocephalus* (type).

Lavareti Rudolphi, 1899a, 313. See *Acanthocephalus.*

1899: *Echinorhynchus.*

Laxus Cobb, 1894c, Apr. 13, 413-416. Type species *L. longus,* designated by Cobb in letter to Stiles, dated Dec. 15, 1903.

Contortus Cobb, 1894c, 414.

Longus Cobb, 1894c, 415-416, figs. 11, i-v.

Lecanocephalus Diesing, 1839a, 227. *L. spinulosus,* only species, hence type.

[Not *Lecanicephalus* Linton, 1891, cestode.]

Leiruris Lenckart, 1850, 11. *Strongylus leptocephalus* Rudolphi, 1819a, only species, hence type.

[Not *Leirurus* Ehr., 1829, arachnoid; *Leirurus* Swains., 1839, fish; *Leirurus* Gray, 1845, reptile.]

Lepidonema Cobb, 1898a, March, 315. *L. bifurcata* Cobb, 1898a, p. 315, figs. 36, i-v; Apr., 453, fig. 127, only species, hence type.

Leptocephalus Rudolphi, 1819a, 649-650.

1819: *Strongylus.* 1850: *Leirurus* (type).

Leptodera Dujardin, 1845a, 106, 108-109. *L. flexilis* Dujardin, 1845a, 109, pl. 6, fig. A, only species, hence type.

1845: *Leptodera* Dujardin, 1845a, 2, 653; changed to *Leptodera* Dujardin, 1845a, 106, 108-109.

[Not *Leptodeira* Fitz., 1843, reptile; *Leptodera* for *Leptodeira*; *Leptodirus* Sturm., 1849, coleopteron; *Leptodirus* for *Leptoderus*; *Leptoderus* Schmidt, 1849, coleopteron.]

Leptoderus Dujardin, 1845a, 2, 653; changed to *Leptodera* Dujardin, 1845a, 106, 108-109.

[Not *Leptoderes* Serv., 1839, orthopteron; *Leptoderis* Billb., 1820, coleopteron.]

Leptolmax. See *Leptolaimus.*

Leptolaimus de Man, 1876, 168-171. *L. papilliger* de Man, 1876, 169-171, pls. 10, 11, figs. 42, a-e, only species, hence type.

[?]: *Leptolaxus.* [See Scudder, 1884, 172.]

Leptosomatium Bastian, 1865c, 94, 144-147. Type by original designation *L. elongatum.*

[Not *Leptosoma* Whitman, 1886, worm; *Leptosomatium* Kraatz, 1895, insect.]

Elongatum Bastian, 1865c, 145, pl. 12, figs. 156-157.

Punctatum (Eberth, 1863) Bastian, 1865c, 145.

Gracile Bastian, 1865c, 145-146, pl. 12, figs. 158-160.

Bacillatum (Eberth, 1863) Bastian, 1865c, 146.

Figuratum Bastian, 1865c, 146-147, pl. 12, figs. 161-163.

Coronatum (Eberth, 1863) Bastian, 1865c, 147.

Longissimum (Eberth, 1863) Bastian, 1865c, 147.

Subulatum (Eberth, 1863) Bastian, 1865c, 147.
Hyalodera Zeder, 1803, 49. Type species; Lychnus history.

1803: Hyalodera Zeder, 1803, 49. Type species Lychnus. See p. 62.

Ascaris Linnaeus, 1758, 34. "S. umbilicus = Stechschleim," only species, hence type. See Oxyuris.

[Not Ascaris Linnaeus, 1758, 34. coleopteron; Ascaris Brisson, 1760, bird; Ascaris Swainson, 1838, bird.]

Ascaris Marion, 1870, 16-17, pl. C, fig. 1. 


Ascaris Linnaeus, 1758, 34. "Oxyuris umbilicus = Stechschleim," only species, hence type. See Oxyuris.

[Not Ascaris Linnaeus, 1758, 34. coleopteron; Ascaris Brisson, 1760, bird; Ascaris Swainson, 1838, bird.]

Ascaris Marion, 1870, 16-17, pl. C, fig. 1. 


Ascaris Linnaeus, 1758, 34. "Oxyuris umbilicus = Stechschleim," only species, hence type. See Oxyuris.

[Not Ascaris Linnaeus, 1758, 34. coleopteron; Ascaris Brisson, 1760, bird; Ascaris Swainson, 1838, bird.]

Ascaris Marion, 1870, 16-17, pl. C, fig. 1. 

DETERMINATION OF GENERIC TYPES, ETC. 117

Liorhynchus Rudolphi—Continued.

Liorhynchus truncatus is the only species of this genus which Rudolphi examined personally. In 1809, Rudolphi mentions: Liorhynchus truncatus (Rudolphi); Liorhynchus gracilescens Rudolphi, 1809a = Ascaris tubifera Fabricius renamed; and Liorhynchus denticulatus Rudolphi, 1809a = Gezia inermis renamed and figured.

Liorhynchus Olfers, 1816, 52; = Liorhynchus Rudolphi.

Lissonema Linstow, 1903, 117-119. L. rotundatum Linstow, 1903, 117-119, figs. 16-20, only species, hence type. Misprint for Lissomema.

Litosoma van Beneden, 1873b, 21. L. filaria van Beneden, 1873b, 21, pl. 5, figs. 1-5, only species, hence type.

Lissematimia Linstow, 1903, 117-119, figs. 16-20, only species, hence type. Nomen nudum except for habitat. See also Heterocheilus.

Lobocephalus Diesing, 1838a, 189. L. heterolobus Diesing, 1838a, 189, only species, hence type. Nomen nudum except for habitat. See also Heterocheilus.

Lombricoidea Mérat, 1821, 225. L. vulgaris = Ascaris lumbricoides, only species, hence type.

longemucronatum Molin, 1861, 536-537, pl. 6, figs. 3-4.


longestriata Molin, 1860, 958.

1860: Spiroptera. 1861: Cheilospirura.

longesubulatum Molin, 1861, 460-462, pl. 2, figs. 1-2.

1861: Encycnostomatum (type).

longervaginitus Diesing, 1851a, 317.

1851: Strongylus. 1861: Metastrongylus.

longicauda Cobb, 1893a, Oct., 819-820, fig. 37.

1893: Neochus (type).

longicauda Cobb, 1893a, Oct., 825, fig. 41.


longicauda de Man, 1893, 85-86, pl. 5, fig. 3.

1893: Treusia (type).

longicaudata Bastian, 1865c, 98, pl. 9, figs. 5-6.

1865: Monhystera.

longicirrus Dujardin, 1845a, 148.

1845: Heligmus (type).

longicollis Bastian, 1865c, 133, pl. 11, figs. 119-122.

1865: Symplocostoma (type).

longijatum Dujardin, 1845a, 27-28. ♂

1845: Calodium.

longipene Molin, 1861, 446-448.

1861: Esophagostoma.

longissima Eberth, 1863a, 21, pl. 2, fig. 8.

1863: Phanoglene. 1865: Leptosomatum.

longus Leidy, 1851, 225.

1851: Anguillula. 1865: Trilobus.

longus Cobb, 1884c, Apr. 13, 415-416, figs. 11, i-v.

1894: Laxus (type).

lumbricoides Linnæus, 1758a, 648.

Lumbricus Linnaeus, 1758a, 64, 647–648. Type species L. terrestris; see p. 64. 

Lumbricus terrestris Linnaeus, 1758a, 647–648. Type species L. terrestris Linnaeus, 1758a, 647–648.

Lumbricus terrestris contained, in part, Ascaris lumbricoïdes, and many earlier authors used Lumbricus for this parasite. Linnaeus’s (1758a, 648) use of Ascaris lumbricoïdes, 1758, should be interpreted as eliminating this species from Lumbricus, and on this account Lumbricus no longer comes into consideration in connection with the nematodes. Cuvier (1798a, 630–631) mentions only L. terrestris; by the Linnean rule, p. 64, this should be type.

lymphatica Treuttel, 1793, 10–13, pl. 2, figs. 3–7.


Lyorhynchus Schneider, 1866, 13–15; for Liorhynchus Rudolphi.

Macrolaimus Maupas, 1900, 578–582. M. crucis Maupas, 1900, 578–582, pl. 26, figs. 4–10, only species, hence type.


1904: Neomeris (type).


macrostoma Bastian, 1865c, 101–102, pl. 9, figs. 29–30.

1865: Mononchus.

maculosa Rudolphi, 1802, 22–23.


magnum Villot, 1875, 458, pl. 11, figs. 2, a–b.

1875: Leptosomatum. 1889: Cylicolaimus (type).

major Raspail, 1829, May, 244, pls. 7–8. [See philum, 1845.]

1829: Strongylus. [1845: Pseudalium (type).]

manica Dujardin, 1845a, 22–23.

1845: Thominx (type).

marina Buetschli, 1874b, 285, pl. 3, fig. 13.

1874: Odontophora (type).

marina Buetschli, 1874b, 269–270, pl. 3, figs. 12, a–c.

1874: Tripyla. [1886: Tripyloides.]

marinum Leidy, 1855, 144.

1855: Pontonema.

marinus Linneaus, 1758a, 648.

1758: Lumbricus.

marinus Mueller, 1779, 99–101 [or 1777, 50–51, pl. 38, figs. 1–11]. [See also forcolatus.]

[? 1777: Cucullanus (? type.).] 1779: Cucullanus.

marinus Mueller, 1783, 163.


marinus Dujardin, 1845a, 231, pl. 3, fig. D.

1845: Dorylaimus.

marioni de Man, 1888, 32–34, pls. 2, 3, fig. 15.

1888: Dolicholaimus (type).

marts Gmelin, 1790a, 3040. See under Filaria.

1790: Filaria (type).

Mastigades Zeder, 1803a, 30. Misprint for Mastigodes.

Mastigodes Zeder, 1800a, 5–6; = Trichuris Roederer & Wagler, 1761, renamed; hence type species Mastigodes hominis = Trichuris trichiura.

1803: Mastigodes Zeder, 1803a, 30. Misprint.

1816: Mastigodes Lamarck, 1816, 212. Misprint.

Mastigoides Lamarck, 1816, 212. Misprint for Mastigodes, 1800.
Mastophorus Diesing, 1853a, 34. Type species probably M. echiusus.

[Not Mastopora Eichw., 1840, mollusk; Mastigophora Poey, 1832, lepidopteron.]

globocaudatus Diesing, 1853a, 34. Host Geotrupes stercorarius. Only immature stages observed.

echiusus Diesing, 1853a, 34. Host Tenebrio molitor. Only immature stages observed. Probably type, because its host is so common.

medinensis Linnaeus, 1758, 647. Renamed dracunculus Bremer.

1758: Gordius. 1759: Dracunculus (type). 1773: Dracunculus (type). 1773: 


creatanea de Man, 1877, 108-109, pl. 9, figs. 14, a-c.

1877: Spira. 1888: Arxolaimus.

megaloehila Diesing, 1851, 278-279.

1851: Filaria. [1851: Tricheilostomi (type).] [1861: Schizocheilonema (type).] 1861: Tricheillloma (type).

megastoma Rudolph, 1891a, 22-23, 236.


megaphyllon Rudolph, 1891a, 47, 285-286.


melancholicus de Man, 1890, 35.

1880: Cylindrolaimus.

Meloidogyne Gouldi?, "1887, 67-68;" 1889a, 28, Feb., 296; 1892a, 68. M. exiguus,

Gouldi?, "1887;" 1889a, 28, Feb., 296; 1892a, 68, only species, hence type.

Menopetatonema Linstow, 1878, 74. Misprint for Monopetatonema.

Merinithoida Kraemer, 1853a. See Merinithoidum.

Merinithoidum Kraemer, 1853a, 291-293. Proposed as an artificial collective group and as such has no type species. Originally contained only one species, Merinithoidum mucronatum chironomi plumosi Kraemer, 1853a, 291-293, pl. 11, figs. 9-10, fig. 15 in text.

Mermis Dujardin, 1842a, 117-119; 1842e, 129, pl. 6. M. nigrescens, only species, hence type.

Mastophorus Molin, 1861, 437, 588-594. Type species M. paradoxus.

longeravaginatus (Diesing, 1851) Molin, 1861, 589-590, pl. 8, fig. 7.

paradoxus (Mehlis, 1831) Molin, 1861, 591.

lewis (Dujardin, 1845) Molin, 1861, 592.

costellatus (Dujardin, 1845) Molin, 1861, 592.

polygyrus (Dujardin, 1845) Molin, 1861, 592-593.

depressus (Dujardin, 1845) Molin, 1861, 593.

minutus (Dujardin, 1845) Molin, 1861, 593-594.

gracilis (Leuckart, 1842) Molin, 1861, 594.

Molin figures only the first species, but as this is probably identical with the second, and as the second is the most common, best known, and most easily obtained of any of the eight species in question, M. paradoxus is herewith designated type of Metastrongylus.

nicans Nordmann, 1840, 664.

1840: Phanoglene (? type).

nicans M. Schultze in Carus, 1897a, pl. 8, fig. 1.

1851: Diplogaster (type).


microphthalminus de Man, 1893, 86-89, pl. 5, fig. 4.

1893: Arxolaimus (Arxolaimoides) [type].
microstomus Dujardin, 1845a, 234–235.  
1845: Euphilus.

migrans Lespès, 1856, 335–336.  
1856: Isakis (type).

minimum Molin, 1857, 218–220, figs. 1–6.  
1857: Gongylonema (type).

minimum de Man, 1876, 120–122, pl. 6, figs. 16, a–b.  
1876: Tylencholaimus.

minor Kuhn, 1829a, Apr., 152. See also inflexus.  
1829: Strongylus.  
1851: Prosthecosacter (type).

minimum Molin, 1857, 218–220, figs. 1–6.  
1857: Gongylonema (type).

minor de Man, 1876, 120–122, pl. 6, figs. 16, a–b.  
1876: Tylencholaimus.

minor Cobb, 1891c, Dec. 22, 156.  
1891: Dipeltis.

minor Looss, 1900, 190–191.  
1900: Triodontus. 1902: Triodontophorus.

minus Marion, 1870, 23–24, pl. G, fig. 1.  
1870: Enoplostoma.

minuta van Beneden, 1871a, 17.  
1871: Coroilla.

minuta van Beneden, 1873b, 22, pl. 5, figs. 6–11.  
1873: Aserops (type).

minutissima Goeze, 1782a, 40, 110.  
1782: Aseris.

minutus Rudolfi, 1819a, 21.  
1819: Cucullanus. 1851: Hystiocephalus.

minutus Dujardin, 1845a, 118.  
1845: Strongylus. 1861: Metastrongylus.

minutus Claparede, 1863a, 89–90, pl. 18, figs. 4–7.  
1863: Desmoscolex (type).

mirabile Leuckart, 1884, 320.  
1884: Allantoracmata (type).

mirabilis Buetschli, 1873a, 44–45, pl. 19 (3), figs. 14, a–b.

mirabilis Buetschli, 1873a, 44–45, pl. 19 (3), figs. 14, a–b.

Mitrephorus von Linstow, 1877, 18. See Mitrephorus.

Mitrephorus von Linstow, 1877, 2. M. hemisphaericus von Linstow, 1877, 2, only species, hence type.

1877: Mitrephorus Linstow, 1877, 18. For Mitrephorus.  
[Not Mitrephorus Schenck, 1837, coleopteron; Mitrephorus Schenck, 1837, coleopteron; Mitrephorus Schenck, 1837, coleopteron.]  
1889: Monhystera de Man, 1889, 7. For Monhystera.

Monhystera Bastian, 1865c, 93, 97–99. Type species M. stagnalis, designated by Bastian in letter to Stiles, dated March 22, 1904.  
1889: Monhystera de Man, 1889, 7. For Monhystera.

stagnalis Bastian, 1865c, 97, pl. 9, figs. 9–11.  
dispar Bastian, 1865c, 97, pl. 9, figs. 1–2.  
ricularis Bastian, 1865c, 97–98, pl. 9, figs. 3–4.  
longicaudata Bastian, 1865c, 98, pl. 9, figs. 5–6.  
filiformis Bastian, 1865c, 98, pl. 9, figs. 7–8.  
disjuncta Bastian, 1865c, 98, pl. 9, figs. 12–13;  as doubtful member of this genus.  
ambigua Bastian, 1865c, 98, pl. 9, figs. 14–15;  as doubtful member of this genus.

monilis Hammerschmidt, 1838a, 358, pl. 4, fig. a.

1838: Anguillina (type).
Monodontus Molin, 1861, 435, 463-470. Type species M. semicircularis.  

[Not Monodon Linnaeus, 1735, 1758, 1766, mammal; Monodon Cuvier, 1817, mollusk; Monodon Schweigger, 1820, mollusk; Monodon Gerv., 18-., mollusk; Monodonta Lamarck, 1799, 1801, mollusk; Monodontes Montf., 1810, mollusk; Monodus Schulze, 1897, for Monodon Linnaeus, 1758.]

wedlii Molin, 1861, 467-469; includes Strongylus cernus Creplin, 1829 = Strongylus trigonocephalus Rudolph, 1809 = type of Bunostomum Railliet, 1902. semicircularis Molin, 1861, 469-470, pl. 2, figs. 3-4. Type; from Dicotyles truncatus.

Molin bases his anatomical discussion directly upon M. semicircularis, which is the only one of the two species he figures, and which further he (p. 464) specifically takes as an argument to justify his genus.

Monohystera de Man, 1889, 7. For Monohystera.

Mononchus Bastian, 1865c, 93, 100-103. Type species M. truncatus, designated by Bastian in letter to Stiles, dated March 22, 1904.

1865: Monorchus Marschall, 1873, 436. For Mononchus Bastian, 1865.

truncatus Bastian, 1865c, 101, pl. 9, figs. 25-26. ♀

papillatus Bastian, 1865c, 101, pl. 9, figs. 27-28. ♀

macrostoma Bastian, 1865c, 101-102, pl. 9, figs. 29-30. ♀

tunbridgensis Bastian, 1865c, 102, pl. 9, figs. 31-32. ♀

cristatus Bastian, 1865c, 102, pl. 9, figs. 33-34. ♀

fovearum (Dujardin, 1845) Bastian, 1865c, 102-103. ♀

muscorum (Dujardin, 1845) Bastian, 1865c, 103. ♀

erassiusculus (Dujardin, 1845) Bastian, 1865c, 103. ♀

A slight complication arises in connection with Mononchus, 1865, and Oncholaimus, 1845. Of the three original species of Oncholaimus, Diesing (1851a, 125) transferred attenuatus to Enoplus, thus leaving fovearum and muscorum. Under such circumstances one of these species would most naturally be selected as type. Bastian (1865c) returned attenuatus to Oncholaimus and transferred fovearum and muscorum to Mononchus. Many authors would hold that Bastian was in error in this action, and that Mononchus should fall as a synonym of Oncholaimus on the ground that it contained the only two remaining species of Oncholaimus. Were it not for the fact that Bastian has written us that he intended truncatus as type of Mononchus we should be inclined to follow that ruling, but as the original author's intentions should be recognized, we accept truncatus as type of Mononchus.

Oncholaimus now takes attenuatus as type by Bastian's designation, provided it is admitted that he was justified in returning the species for the sake of establishing the type.

Monopetalonema Diesing, 1861a, 620, 710. Type species M. physalurum by page precedence, or ? obtuse-caudatum by inclusion. See bilinguis.

physalurum (Bremser, 1851) Diesing, 1861a, 710. ♀ ♀

obtuse-caudatum Diesing, 1861a, 710; ♀ ♀ = Filaria nodulosa Rudolphi, 1820; = Filaria obtuso-caudata Rudolphi, 1819a.

Monoposthia de Man, 1889, 9-10. Type by original designation Spilophora costata Bastian, 1865c.

Monorchus Marschall, 1873, 436. Misprint for Mononchus Bastian, 1865.

[Not Monorchis Monticelli, 1893, trematode.]

monostichum Diesing, 1851a, 306.

1851: Sclerostomum. 1861: Esophagostoma.

montredonense Marion, 1870, 27-29, pl. 1, fig. 1. 1870: Thoracostoma.

morruia.

1871: Ascarophis (apparently type).
morrhati Marion, 1870, 31-32, pl. J, fig. 1.
1870: Rhabdotoderma (type).
mucronata Molin, 1858, 155.
1858: Filaria. 1861: Dipetalonema.
mucronatum Molin, 1861, 474-475, pl. 3, fig. 1.
1861: Diploodon (type).
mucronatus Molin, 1861, 547-548.
1861: Kalicephalus.
muris Schrank, 1788, 21.
[1782: Pseudoechinorhynchus (? type).] 1788: Echinorhynchus. 1790: Hxruca
(tyep).
musce Carter, 1861d, 30-33, pl. 1A, figs. 1-4.
1861: Filaria. 1861: Habronema (type).
mucorum Dujardin, 1845a, 237.
1845: Oncholaimus (? type, see also foicarum and attenuatus). 1865: Mononchus.
"mustelarum [pulmonatis]" Rudolphi, 1819a, 8, 216. See also Asaris bronchialis.
1819: Filaria. 1858: Filarioïdes (type).
Nanonema Cobb, 1905, in Stiles & Hassall, 1905, 122. New name for Cephalonema
Cobb, 1893a [not Stimpson, ante, 1882]; hence type species Nanonema longicauda (Cobb, 1893) Cobb, 1905, 122.
nasuta Rudolphi, 1819a, 23, 238.
1819: Spiroptera. 1845: Diepharagus.
natans Bastian, 1865c, 155-156, pl. 13, figs. 182-184.
1865: Tachyhyodites (type).
natans Bastian, 1865c, 168-169, pl. 13, figs. 236-238.
1865: Chromadura.
Necator Stiles, 1903, Aug. 1, 312. Uncinaria americana, only species, hence type. Originally a subgenus of Uncinaria.
Necticonema Marion, 1870, 32-34. N. prinzi Marion, 1870, 33-34, pl. J, fig. 2, only
species, hence type.
Nectonema Verrill, 1879, Nov. 5, 187-188. N. agilis Verrill, 1879, Nov. 5, 187-188,
only species, hence type.
Needhamia Carus. [Not accessible to us.]
neplecta Diesing, 1861a, 296; [= gibbosus Rudolphi, 1819, renamed].
[1819: Trichocephalus.] 1851: Oncophora (type).
Nema Leidy, 1856, 49-50. N. vacilans Leidy, 1856, 50, only species, hence type.
Nematodum Diesing, 1861a, 724-726. It is doubtful whether this should be interpreted
as a generic name. It seems rather to be an indefinite collective
name "nematode."
Nematodeum Diesing, 1851a, 329-342. Collective group of artificial value and without
any type species.
Nematoxys Schneider, 1866, 29, 111-113. Type species by inclusion N. ornatus. See
also Cosmocerca.
ornatus (Dujardin, 1845) Schneider, 1866, 112-113, pl. 12, fig. 5; pl. 18, fig. 4.
Type of Cosmocerca, 1861.
commutatus (Diesing, 1851) Schneider, 1866, 113, pl. 12, fig. 2; pl. 18, fig. 3.
Schneider apparently overlooked the fact that Diesing, 1861, had proposed
the genus Cosmocerca to include these same two species, hence, Nematoxys =
Cosmocerca renamed, and consequently takes the same species, Cosmocerca
ornata, as type.
DETERMINATION OF GENERIC TYPES, ETC.

Neoechinorhynchus Hamann in Stiles & Hassall, 1905, 123. Type N. clavseceps (Zeder, 1800) Hamann, 1905, 123. Proposed by Hamann in letter to Stiles, dated Nov. 29, 1903, for Neorhynchus Hamann, 1892d; not Sclater, 1869.

Neomermis Linstow, 1904, Sept. 10, 491-492. N. macrolaimus Linstow, 1904, 491-492, figs. 13-15, only species, hence type.

Neonchus Cobb, 1893a, Oct., 819-820. N. longicauda Cobb, 1893a, 819-820, fig. 37, only species, hence type.

Neorhynchus Hamann, 1892d, 197. Type species N. clavseceps, designated by Hamann, in letter to Stiles, dated Nov. 29, 1903. Renamed Neoechinorhynchus.

clavseceps (Zeder, 1800) Hamann, 1892d, 197.

agilis (Rudolphi, 1819) Hamann, 1892d, †97. [Not Neorhynchus Sclater, 1869, bird; Neorhynchus Milne-Edwards, 1879, crustacean.]

Nervus [see Laporte, 1792, 531]. Nervus medinensis = Dracunculus medinensis, only species, hence type.

Netrorhynchus Zenker, 1827, 53. N. blainvillii Zenker, 1827, 53, only species, hence type.

niger de Man, 1893, 100-102, pl. 6, fig. 8.

1893: Siphonolaimus (type).

nigrescens Dujardin, 1842a, 117-119; 1842e, 129, pl. 6.

1842: Mermis (type).

nigricans Cobb, 1894c, Apr. 13, 416-417.

1894: Chromagaster.

nigrorenosa Geze in Zeder, 1800a, 48.


nitzidum Leidy, 1856, 49.

1856: Potamonema (type).

nodulosa Rudolphi [1820], 13.

1820: Filaria. [1861: Monopetalonema.]

nudicapitata Bastian, 1865c, 168, pl. 13, figs. 230-232.

1865: Chromadora.

obtusa Cobb, 1893a, Oct., 811.

1893: Brachynema (type).

obtuse-caudatum Diesing, 1861a, 710. See obtuse-caudatum.

[1819: Filaria.] 1861: Monopetalonema.

obtuso-caudata Rudolphi, 1819a, 634. See also obtuse-caudatum.

1819: Filaria.

obtuso-caudata Kellicrker, 1845b, 88-89.

1845: Lineola.

obtusus Dujardin, 1845a, 105.

1845: Proleptus.

obtusus Dujardin, 1845a, 107.

1845: Eucamptus (type).

obtusus Bastian, 1865c, 128, pl. 10, figs. 117-118.

1865: Tylenchus.

obtusus Cobb, 1894c, Apr. 13, 419-420, figs. 13, i-iv.

1894: Solenolaimus (type).

ocellata Carter, 1859b, July, 43, pl. 3, fig. 31.


ocellatus Bastian, 1865c, 163, pl. 13, figs. 210-212a.

1865: Cyatholaimus (type).
octocornutus Molin, 1860, 344.
1860: Elaphocephalus (type).
oculata Marion, 1870, 35, pl. K, fig. 2.
1870: Acanthopharynx.
Odontobius Roussel, 1834, 326-331. O. ceti Roussel, 1834, 326-331, only species, hence type.
Odontophora Buetschli, 1874b, 285. O. marina Buetschli, 1874b, 285, pl. 3, fig. 13, only species, hence type.
[Not Odontophorus Vieillot, 1816, bird.]
Esophagostomum Railliet & Henry, 1902, 7, Feb., 110-111. O. robustus (Giles, 1892)
Gedölst, 1903a, 57, 92, only species, hence type.
Esophagostomum Molin, 1861, 435, 443-450. Type species O. subulatum = O. dentatum
(Rudolphi, 1803).
subulatum Molin, 1861, 445-446, pl. 1, figs. 3-4. ♂♀
longipene Molin, 1861, 446-448. ♂♀
monostichum (Diesing, 1851) Molin, 1861, 448-449. ♂♀
acutum Molin, 1861, 449. ♂♀
pachycephalum Molin, 1861, 450. ♂♀
As Molin designated no type, we herewith designate as such the species
Esophagostomum subulatum = Strongylus dentatus Rudolphi, 1803, this selection being made for the following reasons: (1) As this form inhabits a domesticated animal, it is much more easy to obtain than forms inhabiting wild animals; (2) it is the only species Molin figured; (3) Molin evidently intended this species as type, although he did not definitely designate it as type; (4) this designation agrees with the principle of page precedence.

Ollulanus R. Leuckart, 1865, 227. O. tricuspid Leuckart, 1865, 227, only species, hence type.

Oncholaimus de Rouville, 1903, 11, Dec., 1528. Misprint for Oncholaimus.

Onchoecera Diesing, 1841, 200 [in J. Hermann, 1841b, 199-200]. O. reticulata Diesing, 1841, 200, only species, hence type.

1846: Onchoecera Creplin, 1846b, 171; for Onchoecera.
Oncholaima Dujardin, 1845a, 3, 653. Changed to Oncholaimus Dujardin, 1845a, 230, 235-237, 653.

Oncholaimellus de Man, 1890, 189-192. O. calcodosicus de Man, 1890, 190-192, pl. 5, fig. 10, only species, hence type.

Oncholaimus Dujardin, 1845a, 230, 235-237, 653. Type species probably O. attenuatus. See discussion under Mononchus, 121.
1845: Oncholaima Dujardin, 1845a, 3, 653. Changed to Oncholaimus Dujardin, 1845a, 230, 235-237, 653.
1865: ? Mononchus Bastian, 1865c, 93, 100-103; includes both fovearum and muscorum.
1903: Oncholaimus de Rouville, 1903, 1528. Misprint.
atenuatus Dujardin, 1845a, 236. ♂ To Enoplus by Diesing, 1851a, 125. Type of Oncholaimus according to Bastian, 1865c, 100, and de Man, 1886, 9.
fovearum Dujardin, 1845a, 236-237. ♂ To Mononchus by Bastian, 1865c, 102.

muscorum Dujardin, 1845a, 237. ♂ To Mononchus by Bastian, 1865c, 103.

Onchoecera Creplin, 1846b, 171. See Onchoecera.

Onchopora Diesing, 1851a, 81, 296. O. neglecta Diesing, 1851a; = Trichocephalus gibbosus Rudolphi, 1819a, renamed, only species, hence type.
[Not Onchopora Busk., 1855, mollusk; Onchophorus Rudow., 1874, neuropteran; Eppelschein, 1885, insect.]
Onyx Cobb, 1891c, Dec. 22, 146–155. *O. perfectus* Cobb, 1891c, 153–155, figs. 4, 5, 7, 8, i–v, only species, hence type.

[Not Oaiz Mayr & Forel, 1884, insect (Zool. Rec. (1884), 1885, v. 22, Index, 7).]

*Ophiostoma* Claparède, 1863a, 88–89, pl. 18, figs. 2–3.

1863: *Chactosoma* (type).

*Ophiostoma* Rudolphi, 1801, 48. Type by inclusion *Cystidicola farionis* Fischer, 1798. See *Cystidicola*.

1839: *Ophiostomum* Creplin, 1839a, 283. *Ophiostoma* renamed.

[Not *Ophiostomus* for *Ophistomis* Dej., 1834, coleopteron.]

*Ascaris phoce* Fabricius, 1780a, 272. [United with *Ascaris atax* Mueller, 1776, 214, *Ascaris neitis* *[neitis]* Mueller, 1776, 214, and *Ascaris bifida* Fabricius, 1780a, 273; (= *Proboscidea bifida* (Mueller) Lamarck, 1801), by Rudolphi, 1809a, 119, under the name *Ophiostoma dispar* Rudolphi, 1809a, 119; unidentifiable according to Krabbe, 1878.]

*Ascaris globicola* (Fabricius, 1780) Gmelin, 1790a, 3036; [= *Gordius globicola* Fabricius, 1780a; eliminated from *Ophiostoma* as doubtful by Rudolphi, 1810a, 279].

*Ascaris rajc* Mueller, 1776, 214. [To *Proboscidea* by Tableau encycl., pl. 32, figs. 11–12; to *Fusoria* and *Ophiostoma* by Zeder, 1803a, 124, 128; eliminated from *Ophiostoma* as doubtful by Rudolphi, 1810a, 270.]

*Ascaris bifida* Mueller, 1780, 273. [United with *Ascaris phoce* by Rudolphi, 1809a, 119.]

*Cystidicola farionis* Fischer, 1798b, 98. [Type of *Cystidicola*.] [To *Spiroptera* by Rudolphi, 1819a, 26–27, 245–246.]

*Ophiostoma*, 1801, was a deliberate renaming of an earlier monotypical genus, hence it takes the same type as the earlier genus. It is quite possible that *Ascaris bifida* is the type of *Proboscidea*. See also p. 45.

*Ophiostomum* Creplin, 1839a, 283; = *Ophiostoma* renamed.

ornata Dujardin, 1845a, 144–145, pl. 5, fig. G.


ornatum Dujardin, 1843a, 347, pl. 14, fig. B.

1843: *Trichosomum*. 1845: *Calodium*.

ornatus Eberth, 1863a, 40–41, pl. 4, figs. 13–15; pl. 5, figs. 5–6.

1863: *Enoplus*. 1865: *Symplocostoma*.

ornatus Bastian, 1865c, 163–164, pl. 13, figs. 215–216.

1865: *Cyntholaimus*.

ovata Zeder, 1803a, 36–37.

1803: *Filaria*. 1851: *Aramonema*.

oviflagellis Fourment, 1884a, 1–8, pl. 16, figs. 1–11.

1884: *Spinileucus* (type).

Oxurus Sonsino, 1878, 613. Misprint for *Oxurus*.

*oxycaudata* Gref, 1863a, 115–117, pl. 6, figs. 9–10.

1869: *Trichoderma* (type).

oxyccephalus de Man, 1880, 31.

1880: *Audolaimus* (type).

oxycerca de Man, 1888, 10–11, pl. 1, fig. 6.


Oxysoma Schneider, 1866, 29, 114–116. Type species probably *O. brevicaudatum*, by page precedence and because of host.

[Not Oxysoma Gervais, 1849, arachnoid; Kraatz, 1865, coleopteron.]
Oxystoma Schneider—Continued.

*brevicaudatum* (Zeder, 1800) Schneider, 1866, 114–115, pl. 11, figs. 1–2; ♂ ♀

[= *Fusaria brevicaudata* Zeder, 1800a; = *Heterakis brevicaudata* (Zeder)

Dujardin, 1845]. Host *Rana temporaria.*

tentaculatum (Rudolphi, 1819) Schneider, 1866, 115, pl. 7, fig. 13; pl. 12, fig. 1;

♀ ♂ [= *Ascaris tentaculata* Rudolphi].

lepturum (Rudolphi, 1819) Schneider, 1866, 115–116, pl. 7, fig. 14; pl. 12, fig.

3; ♂ ♀ [= *Ascaris leptura* Rudolphi].

Oxyspirura von Drasche in Stossich, 1897, 123–126. Type species *Oxyurus cephaloptera,*

after Drasche, according to Stossich (letter to Stiles, dated Nov. 1, 1903).

*acamminata* (Molin, 1860) Stossich, 1897, 123. ♂

*anacanthura* (Molin, 1860) Stossich, 1897, 123–124. ♂ ♀

*brevieubulata* (Molin, 1860) Stossich, 1897, 124. ♂ ♀

cephaloptera (Molin, 1860) Stossich, 1897, 124–125. ♂ ♀

*sygmoidea* (Molin, 1860) Stossich, 1897, 125. ♂ ♀

*spiralis* (Molin, 1860) Stossich, 1897, 125–126. ♂ ♀

*brevipennis* (Molin, 1860) Stossich, 1897, 126. ♂ ♀

Oxystoma Buetschli, 1874b, 270–271. *O. elongata* Buetschli, 1874b, 270–271, pl. 4, figs.

18, a–d, only species, hence type.

[Not *Oxystoma* Düméril, 1806, coleopteron; Oxystoma Blainville, 1825, mollusk, supergeneric; Oxystoma Haan, 18—, crustacean, supergeneric; Blainville, 1825, mollusk, supergeneric; *Oxystoma* G. Fischer, 1803, mammal; Rafinesque, 1810, fish; Latreille, 1825, coleopteron; Swains., 1837, bird.]

Oxyurus Rudolphi, 1803a, 6–8. *O. curvula = Trichocephalus equi* Schrank, 1788, 4, or Gmelin, 1790a, 3038; = *Oxyurus equi,* only species, hence type.


1860: *Lepturus* Schlotthauber. Type *curvula.*

1878: *Ociris* Sonsino, 1878, 613. Misprint.

[Not *Oxyurus* Rafinesque, 1810, fish; Swains., 1827, bird; *Oxyura* Bonap., 1828, bird; *Oxyura* for *Ocira* Kirby, 1817, coleopteron.]

Oxyurus Lamarck, 1816, 213–215. For *Oxyurus* Rudolphi, 1803a, hence type species *Oxyurus curvula.*

Ozolaimus Dujardin, 1845a, 136, 145–147. *O. megatyphlon* (Rudolphi, 1819) Dujardin, 1845a, only species, hence type.

*pachycephalum* Molin, 1861, 450.

1861: *Esophagostoma.*

*paganelli* Molin, 1859, 32.

1859: *Nematoideum.* 1861: *Agamonematodum.*

*paludine* Hemprich & Ehrenberg, 1828a, unpaged, appendix.

1828: *Phacelura* (type).

*palastris* Carter, 1858a, June, 414.

1858: *Urolabes* (type).

*papillata* Bastian, 1865c, 170, pl. 13, figs. 247–248.

1865: *Chromadora.*

*papillatus* Bastian, 1865c, 101, pl. 9, figs. 27–28.

1865: *Mononchus.*

*papillatus* de Man, 1880, 4.

1880: *Deontolaimus* (type).

*papillatus* Cobb, 1898a, Mar., 320, figs. 45, i–iv.

1898: *Streptogaster* (type).

*papilliger* de Man, 1876, 169–171, pls. 10, 11, figs. 42, a–e.

1876: *Leptolaimus* (type).

*papilliger* Creplin, 1846b, 173.

1846: *Filaria.* 1851: *Agamonema.*
DETERMINATION OF GENERIC TYPES, ETC. 127

papillosa Schneider, 1866, 153-154, pl. 11, fig. 3. 1866: Pelodera.
papillosus Bloch, 1782a, 32, pl. 9, figs. 1-6. 1782: Ascaris. [1845: Heterakis vesicularis sub (type).]

Parachordodes Camerano, 1897g, 368, 389-398. Type species P. tolosanus (Dujardin, 1842) Camerano, 1897g, 398, by designation of Camerano in card to Stiles, dated Nov. 29, 1903.

vellodorskyi (Janda, 1894) Camerano, 1897g, 389. $\varphi$
raphis (Camerano, 1893) Camerano, 1897g, 389. $\varphi$
alfredi (Camerano, 1894) Camerano, 1897g, 390. $\varphi$
latastei (Camerano, 1895) Camerano, 1897g, 390-391. $\varphi$
domesticus (Villot, 1874) Camerano, 1897g, 391. $\varphi$

Parachordodes was proposed independently by Montgomery, 1898, with Paragordius varius as only and type species.
Paramermis von Linstow, 1898, Nov. 18, 167. Type species P. crassa.

Mermis crassa von Linstow, 1889, 392–396, pl. 22, figs. 2–8. ♀ ♂

Mermis aquatilis (Dujardin, 1845) von Linstow, 1898, 155–156, pl. 8, figs. 7–10. ♀ ♂

In reply to a personal letter asking Dr. von Linstow for the type of his genus Paramermis he writes under date of Nov. 23: "Die erste unter dem Genus-Namen Paramermis beschriebene Art ist crassa." From this we assume that he considers crassa as type.

parasitifera Bastian, 1865c, 159–160, pl. 13, figs. 201–203.

1865: *Spira* (type).

parasitus Creplin, 1847b, 161–165.

1847: *Chordodes* (type).

parietinus Bastian, 1865c, 118–119, pl. 10, figs. 79–80.

1865: *Plectus* (type).

parietinus Bastian, 1865c, 123, pl. 10, figs. 102–103.

1865: *Aphelenchus*.

parvus Bastian, 1865c, 120, pl. 10, figs. 89–90.

1865: *Plectus*.

parvus Bastian, 1865c, 156, pl. 13, figs. 185–186.

1865: *Tachyhodites*.

Passalurus Dujardin, 1845a, 230, 231–233. *Oxyuris ambigu*a Rudolphi, 1819a, 19, 229, only species, hence type.

patagonicus de Man, 1904, 41–44, figs. 1–6.

1904: *Plectus* (*Plectoides* [probably type]).

pauli Marion, 1870, 15–16, pl. B, fig. 2.

1870: *Amphistomus*.

pectinatus Diesing, 1838a, 189. Renamed *Ancyracanthus pinnatifidus*.

1838: *Ancyracanthus* (type).

Pelagonema Cobb, 1894c, Apr. 13, 391–392. *P. simplex* Cobb, 1894c, 391–392, figs. 4, i–iv, only species, hence type.

pelio Schneider, 1866, 154, pl. 11, fig. 11.

1866: *Pelodera*.

pellucida Bastian, 1865c, 142, pl. 11, figs. 149–150.

1865: *Anticoma*.

pellucidus Bastian, 1865c, 100, pl. 9, figs. 23–24.

1865: *Trilobus*.

pellucidus Cobb, 1893a, Oct., 821, fig. 39.

1893: *Chaolaimus* (type).

Pelodera Schneider, 1866, 29, 148–154; = *Pelodytes* Schneider, 1860, renamed, hence type species *Pelodera strongyloides*. Also type by page precedence.

1860: *Pelodytes* Schneider, 1860, 228 [not Fitz. (? date), or Gistl., 1848]; type *Pelodytes strongyloides*.

strongyloides (Schneider, 1860) Schneider, 1866, 152–153, pl. 10, fig. 9. Type.

teres Schneider, 1866, 153, pl. 10, fig. 8.

papillosa Schneider, 1866, 153–154, pl. 11, fig. 3.

pellio Schneider, 1866, 154, pl. 11, fig. 11.

*Pelodytes* Schneider, 1860, 228, pl. 6, fig. 12. *Pelodytes strongyloides* Schneider, 1860, 228, pl. 6, fig. 12, only species, hence type. Renamed *Pelodera* Schneider, 1866, 148.

[Not *Pelodytes* Fitz., ante 1846, or Gistl., 1848, reptile; see Agassiz, 1842–46.]

pendula Leidy, 1851, 240.

1851: *Symplecta* (type).
Penzancia de Man, 1889, 7–8. Type species Monhystera velox, designated in letter from de Man to Stiles, dated Nov. 30, 1903. Subgenus of Monhystera.  
[velox (Bastian, 1865) de Man, 1889, 7–8.] (Type.)  
[oxyerca (de Man, 1888) de Man, 1889, 7.]  

erarmata Marion, 1870, 34–35, pl. K, fig. 1.  
1870: Acanthopharynx.  

perfectus Cobb, 1891e, Dec. 22, 153–155, figs. 4, 5, 7, 8, i–iv.  
1891: Onyx (type).  

Peritrachelius Diesing, 1851a, 80, 209–210. P. insignis Diesing, 1851a, 210, only species, hence type.  

persegis Bastian, 1865c, 124–125, pl. 10, figs. 104–106.  
1865: Cephalobus (type).  

1865: Physaloptera (Bremser, 1851) de Man, 1889, 7.  

Phacelura Hemprich & Ehrenberg, 1828a, appendix, not paged. P. paludinae Hemprich & Ehrenberg, 1828a, only species, hence type.  
[Not Phacelura for Phakellura Guild., 1840, lepidopteron.]  

phalacrus Greef, 1869a, 118, pl. 7, figs. 5–6.  
1869: Eubastrochus (? type).  

Phanoderma Bastian, 1886c, 94, 142–144. Type species P. cocksi, designated by Bastian in letter to Stiles, dated March 22, 1904.  

cocksii Bastian, 1886c, 143, pl. 11, figs. 151–153.  

abidum Bastian, 1886c, 143–144, pl. 11, figs. 154–155.  

tuberculatum (Eberth, 1863) Bastian, 1886c, 144.  

[Not examined by Bastian.]  

Phanoglene Nordmann, 1840, 664. Type species? P. micans; see p. 67.  
micans Nordmann, 1840, 664; in larva of a neuropteran.  

barbiger Nordmann, 1840, 664; free form.  


Pharyngodon Diesing, 1861a, 614, 642. P. acanthurus (Diesing, 1851) Diesing, 1861a, 642, only species, hence type.  
[Not Pharyngodon Cope, 1885, reptile.]  

phoex Fabricius, 1758a, 272. Includes Ascaris neitsib Mueller.  


1816: Fassula. [?] Proboscidea.  

Physaloptera Rudolphi, 1819a, 20–30, 255–259. Type species P. clausa, by present designation, because of page precedence, only species figured, and common host.  

clausa Rudolphi, 1819a, 29, 255–256, pl. 1, figs. 2–3.  

alata Rudolphi, 1819a, 29–30, 256–257.  

abbreviate Rudolphi, 1819a, 30, 257–258.  

reversa Rudolphi, 1819a, 30, 258.  

tenuicollis Rudolphi, 1819a, 30, 258–259; sp. dub.  

Physaloptera clausa is here designated type on the following grounds: (1) Of the original species, this alone is figured; (2) it occurs in an European animal which is not especially difficult to obtain, in fact, of the original hosts of Physaloptera, this host (Erinaceus europaeus) is probably the most easily obtainable; (3) Rudolphi’s description of this species is more complete than his description of any other member of the genus; (4) this ruling agrees with page precedence.  

physalura Bremser in Diesing, 1851a, 276–277.  
1851: Filaria. 1861: Monopetalonema (? type).  

6328—No. 79—05—9
Physocyclus Diesing, 1861a, 619, 686-687. P. sexalata (Molin, 1859) Diesing, 1861a, 686-687, only species, hence type.

[Not Physocyclus Schinz, 1801, dipter.]

Figuris Schlothauber, 1860, 126. P. reticulata, only species, hence type.

Pinguicola Verrill, 1870, 248-249, figs. 83, a-d.

1870: Serostoma. [1839: See Stephanurus dentatus (type).]

Pinnatifidus Diesing, 1839a, 227-229, pl. 14, figs. 21-27. Ancyracanthus pectinatus renamed.

1839: Ancyracanthus (type).

Plagioistoma Wedl, 1861, 464-466, pl. 1, figs. 5-11.

1861: Pterogodermites (type). 1873: Rictularia. [?] Ophiostoma.

Platessæ Rudolphi, 1809a, 116-117.

1809: Calcanus. [1845: Dacnitis emerius (? type) sub.]

Platycma Cobb, 1894c, Apr. 13, 390-401. P. cephalata Cobb, 1894c, 390-401, figs. 7, i-iv, only species, hence type.

Plectoides de Man, 1904, 44-46. Type probably Plectus patagonicus. Subgenus of Plectus.

Plectus (Plectoides) patagonicus de Man, 1904, 41-44, figs. 1-6.

Plectus (Plectoides) antarcticus de Man, 1904, 44. (Only one specimen, a female.)

Plectus Bastian, 1865c, 93, 118-121. Type species P. parietinus, designated by Bastian in letter to Stiles, dated March 22, 1904.

[Not Plectus, for Plectris Lepell., Serville, 1825, coleopteron.] See Scudder, 1884, 269.

Parietinus Bastian, 1865c, 118-119, pl. 10, figs. 79-80.♀

Cirratus Bastian, 1865c, 119, pl. 10, figs. 81-82.♀

Tennis Bastian, 1865c, 119, pl. 10, figs. 83-84.♀

Rictular Bastian, 1865c, 119, pl. 10, figs. 85-86.♀

Acuminatus Bastian, 1865c, 120, pl. 10, figs. 87-88.♀

Parvus Bastian, 1865c, 120, pl. 10, figs. 89-90.♀

Trichi Bastian, 1865c, 120, pl. 10, figs. 91-92.♀

Granulosus Bastian, 1865c, 120-121, pl. 10, figs. 93-94.♀

Fusiformis Bastian, 1865c, 121, pl. 10, figs. 95-96.♀

Viralis (Dujardin, 1845) Bastian, 1865c, 121, as doubtful member of this genus.

Plekseni Camerano, 1809d, 118-119.

1896: Gordius. 1897: Parachordodes.

Pleurorinchus Rudolphi, 1801, 58. For Pleurorinchus.

Pleurorinchus Nau, 1787, 471-474, pl. 7. No specific name used. Type "Ophiostoma sphacrophalus." See de Blainville, 1822a, 540.

1801: Pleurorinchus Rudolphi, 1801, 58. For Pleurorinchus.


Plica Rudolphi, 1819a, 14, 222.

1819: Trichosoma. 1845: Calodium.

Polyccephalus Stiebel, 1817, 174-179, pl. 3, figs. 2-5.

1817: Dyacanthus (type).

Polydolophtis Dujardin, 1845a, 151, 221-222. Ascaris anoura Dujardin, 1845a, 221-222, only species, hence type. A subgenus of Ascaris.

Polygordius Schneider, 1868, Feb., 51-60. Type apparently "P. lacteus."

"Rhampogordius lacteus" Rathke of Schneider, 1866, 326, misdetermined; = "Polygordius lacteus," 1868, 52-56. Apparently type; description much more complete.

Rhampogordius purpureus Schneider, 1866, 326; = Polygordius purpureus, 1868, 56-57. Only few specimens, hence description incomplete.
poly gyrus Dujardin, 1845a, 116–117.

1845: Strongy!s. 1861: Metastrongy!lus.

Poly porus Gruby, 1840. [Not accessible to us.]

[Not Poly pora McCoy, 1844, pol.; Mosel, 1876, coelenterate.]


vacillatum Leidy, 1855, 144. Probably only 9 observed. Abundant. marinum Leidy, 1855, 144. Probably only 9 observed.

posthelic a Molin, 1860, 926–927.

1860: Spiroptera. 1861: Cheilospirura.

Potamonema Leidy, 1856, 49. P. nitidum Leidy, 1856, 49, only species, hence type.

precinctus Dujardin, 1845a, 282.

1845: Stelmius (type). 1892: Diaciris. [?] Heterakis.

pratensis de Man, 1880, 22.

1880: Ethmolairnus (type).

primitieus de Man, 1880, 2–3.

1880: Alaimus (type).

prinzi Marion, 1870, 33–34, pl. J, fig. 2.

1870: Necticorn a (type).

Prionoderdia Rudolphi, 1810a, 254–256. P. ascaroides (Goeze, 1782) Rudolphi, 1810a, 254–256, pl. 12, fig. 3, only species, hence type.

prismaticus Vil l ot, 1874, Jan., 58.

1874: Gordius. 1887: Parachordodes.

Prismatolaimus de Man, 1880, 31–33. Type species P. intermedius, designated in letter from de Man to Stiles, dated Nov. 30, 1903.

Monhystera intermedia Buetschli, 1873a, 67–68, pl. 6, figs. 33, a–b.

dolichurus de Man, 1880, 32–33.

probolurus Railliet, 1896, 542.


[Not Proboscidea Lec., 18—, worm; Proboscidea Latreille, 1809, diptera, supergeneric; Proboscidea Ill., 1811, mammal, suprageneric; Proboscidea Spix, 1823, mammal; Proboscidea Schmidt, 1832, mollusk; Proboscidea Trosch., 1848, mollusk; Proboscidea Bory, 1824, rotifer.]

According to Scudder (1882, 282), and Sherborn (1902, 777), this genus was proposed in 1791 by Bruguière. Cuvier (1798a, 637–638) mentions it, but does not give any species in connection with it. Lamarck (1801, 340) gives only Proboscidea bifida (Mueller) = Ascaris bifida Mueller [see Fabricius, 1780a]. Rudolphi (1801) was apparently not acquainted with the fact that Proboscidea had been proposed. Bosc (1802a, 43–45) attributes Proboscidea to Bruguière, and mentions the following species:

bifida (Fabricius) [= Ascaris bifida Fabricius, 1780a; = Proboscidea bifida (Fabricius) Lamarck, 1801; = Ophiostoma bifidum (Fabricius) Zeder, 1803a].

roja (Mueller, 1776) [sub Ophiostoma by Rudolphi, 1801, 48; to Fusaria and Ophiostoma by Zeder, 1803a, 124, 128; eliminated from Ophiostoma as doubtful by Rudolphi, 1801a, 270].

pluronectis Mueller, 1776 [renamed Echinorhynchus platesoides Gmelin, 1790a; doubtful species in Rudolphi, 1809a, 310].

gadi (Mueller, 1776) [= Ascaris gadi Mueller, 1776; = A. clavata Rudolphi, 1809a, 183].

versispellis (Fabricius, 1780) [= Echinorhynchus acus, according to Rudolphi, 1809a, 279].
rubra.
**BUREAU OF ANIMAL INDUSTRY.**

Proboscidea "Bruguière"—Continued.

_alev_ (Mueller, 1776) [= *Ascaris alev* Mueller, 1776; to *Echinorhynchus* by Zeder, 1803a, 161; a doubtful species, according to Rudolphi, 1809a, 306].

The type species is in doubt. Lamarck (1801) might perhaps be interpreted as having designated *Ascaris bifida* as such.

**profundi** Bastian, 1866c, 159, pl. 13, figs. 198-200.

1865: *Comesoma.*

**profundissima** von Linstow, 1888, 11-12, pl. 2, figs. 8-10.

1888: *Prothelmins* (type).

*Proleptus* Dujardin, 1845a, 42, 105. Type species *P. acutus*, see p. 30.

[Not *Proleptus* Walk., 1851, hemipteron.]

*acutus* Dujardin, 1845a, 105. ♀ Only positive species, hence type.

*Pars* Dujardin, 1845a, 105. ♀

**Prosthecosacter**, see *Prosthecosacter*.

*Prosthecosacter* Diesing, 1851a, 82, 322-325. Type species by present designation *P. minor*, see p. 47.


*inflexus* (Rudolphi, 1809a, 227-228 p. p.) Diesing, 1851a, 323. ♀♀ Includes *Pseudalius* *filum* Dujardin, 1845a, type of *Pseudalius*.

*minor* (Kuhn, 1829) Diesing, 1851a, 323-324. ♀♀ Includes *Stenurus* *inflexus* Dujardin, 1845a, 226; see *Stenurus*.

*convolutus* (Kuhn, 1829) Diesing, 1851a, 324. ♀♀

*alatus* (R. Leuckart, 1848) Diesing, 1851a, 324-325. ♀♀ Includes *Strongylus* *alatus* (Pharurus), type of Pharurus, 1848.

*protetus* Pallas, 1766, p. 417, and Mueller, 1773, 45. See also *chaos* and *prothoent*.


*Prothelmins* von Linstow, 1888, 11-12. *P. profundissima* von Linstow, 1888, 11-12. pl. 2, figs. 8-10, only species, hence type.

*prothoent* Linneus, 1767, 1326; equals *chaos*, 1758, renamed.

[1758: *Volvox*.] 1767: *Chaos*.

*prognostus* Balsamo-Crivelli, 1843b, 188.

1840: [?]. 1843: *Autoplectus* (typé).

*psammophilus* de Man, 1850, 29.

1880: *Choanolaimus* (type).

*Pseudalius* Dujardin, 1845a, 106, 134-135. *P. filum* Dujardin, including *Strongylus* *major* Raspiail, 1829, only species, hence type.

*Pseudoechinorhynchus* Geze, 1782a, 41, 138-139; Luche (1904, 250, 335) has apparently taken *Ps. sp.* Geze, 1782a, 138-139, pl. 9b, fig. 12 (= *Cysticercus fasciolaris*), as type species. We have our misgivings, however, whether this is altogether in harmony with Geze (1782a, 41), who distinctly says: "*Pseudoechinorhynchus* (*Tetia harvea* Pallas)." See also *Harvea*.

*Pseudosermis* Zyko, 1902, 61-64, pl. 1. [Not accessible to us.]

*Pseudonymus* Diesing, 1857a, 10. *P. spirotheca* (Györö, 1856) Diesing, 1857a, 9-10, only species, hence type.

1861: *Physocephalus* Diesing, 1861; type species *spirotheca*.

1878: *Helicobothria* Galeb, 1878b; type species *spirotheca*.

*Pseudorhabditis* Perroncito, 1881, Dec. 28, 499-519, pl. 19, figs. 1-8. *Anguillula* *stercoralis* Bayay, 1876a, only species, hence type.

*Pteroccephalus* von Linstow, 1899, 12-13. *P. viviparum* von Linstow, 1899, 12-13, pl. 2, figs. 22-24, 26-27; pl. 4, fig. 41, only species, hence type.

[Not *Pteroccephulus* Schneider, 1887, protozoon; *Pteroccephala* Swains., 1839, fish; *Pterocellus* Röm., 1852, crustacean.]

*Pterygodermatites* Wedl, 1861, 364-366. *P. plagiotoma* Wedl, 1861, 464-466, pl. 1, figs. 5-11, only species, hence type.
DETERMINATION OF GENERIC TYPES, ETC.

Pychocephalus Diesing, 1861a, 614, 637-638.  

P. spirotheca (Györy, 1856) Diesing, 1861a, 638, only species, hence type.  See *Helicotherius* and *Pseudonymus*.  

[Not *Pychocephalus* Agassiz, 1843, fish.]


1857: *Gonyleonema.*

*Pulmonalis* Gmelin, 1790a, 3035.  

1857: *Gongylonema.*

*Pulmonalis* Gmelin, 1790a, 3035.  

1800: *Fusaria.*  

1802: *Ascaris.*  

[1801: *Liorhynchus.*]  

1802: *Ascaris.*  

[1801: *Liorhynchus.*]  

1803: *Strongylus.*  

1805: *Parachordodes.*  

1845: *Ascaris.*  

[1851: *Ophiostoma.*]  

1851: *Ophiostoma.*  

[?]: *Proboscidea.*

Ramphogordius Rathke, 1843, 237-238.  

R. lacteus Rathke, 1843, 238, pl. 12, fig. 16, only species, hence type.  

1846: *Ramphogordius* Agassiz, 1846, 320, 322.

rapax Cobb, 1894c, Apr. 13, 393-394, figs. 5, i-iv.

1894: *Demonema* (type).

raphalisis Camerano, 1893c, 213-215, fig. 1.

1893: *Gordius.*  

1897: *Parachordodes.*

rectum von Linstow, 1899, 19-20, pl. 5, fig. 56.

1899: *Oxyneuma* (type).

reddivum Linneus, 1767, 1326 [confined to glutinis by Mueller, 1783, 162; see also *Anguillula* Mueller, 1773, 41].

1767: *Chaos.*  

[1783: *Vibrio.*]  

[1786: *Anguillula* (type).]

reflexa Zeder, 1800a, 33-36, pl. 4, fig. 7; in part.

1800: *Fusaria.*  

[1845: *Ascaris* (Ascaridia) inflexa sub.]  

[1845: *Heterakis vesicularis* sub (type).]

renale Goze, 1782a, 73.  

[1782: *Ascaris renales.*]  

[1802: *Diectophyma* (type).]  

[1851: *Eustrongylus* (type).]  

1901: *Diectophyma.*
134 BUREAU OF ANIMAL INDUSTRY.

renardi Lindemann, 1865, 495, pl. 12, figs. 1-6.

1865: Paradoxites (type).

reticulata Diesing in Hermann, 1841b, 200.

1841: Onchocecaria (type).

reticulata Schlotheanuber, 1860, 126.

1860: Figuris (type).

retortseformis Zeder, 1800a, 75-77.

1800: Strongylus. 1906: Trichostrongylus (type).

retusa Rudolphi, 1819a, 30, 258.

1819: Physaloptera.

reovibra Rudolphi, 1819a, 26, 247.

[1811: Acuvaria.] 1819: Spiroplera.

Rhabditis Dujardini, 1845a, 230, 239-243, 653. Type species R. terricola, designated by Bastian, 1865c, or R. glutinis type by inclusion. See discussion, p. 45.

1845: Tribactis Dujardini, 1845a, 3, 653. Renamed Rhabditis.

[Not Rhabditidae Haan, 1825, mollusk.]

terricola Dujardini, 1845a, 240-241. Q To Angiostomon by Diesing, 1851a, 139; returned to Rhabditis as type by Bastian, 1865c; retained here by Railliet, 1893a, with Pelodera tere as synonym.

aceti (Mueller, 1783) Dujardini, 1845a, 242. 3 Q To Anguillula by Diesing, 1851a, 129; designated type of "Anguillula Ehrenberg," 1828a, by Bastian [not one of the original species of "Anguillula Hemprich & Ehrenberg, 1828a, new genus"] to Leptodera by Schneider, 1866; generally retained as an Anguillula by most of the recent authors.

tritici ([Steinbuch, 1799] Bauer, 1823) Dujardini, 1845a, 243, 3 Q including Vibrio anguillula y Mueller, and Vibrio agrostis Steinbuch, 1799, 233, and Vibrio tritici Bauer, 1823, 1. To Anguillula by Diesing, 1851a; to Anguillulina by Gervais & van Beneden, 1859b; to Tylenchus by Bastian, 1865c; to Anguillula by Schneider, 1866; to Tylenchus by Bastian, 1865c; to Anguillulina, possibly as type, by Railliet, 1893a, 553.

glutinis (Mueller, 1783) Dujardini, 1845a, 243, 3 Q including Vibrio anguillula β glutinis Mueller and Vibrio glutinis Dugès, 1826a, 225. Equals redicirum Linneus, 1767, type of Anguillula, 1786, not 1828. To Anguillula by Diesing, 1851a, and Bastian, 1865c; to Leptodera by Schneider, 1866, 160.

For discussion of this case, see p. 45.

Rhabdogaster Metschnikoff, 1867, Ang. 26, 542-543. R. cypnoides Metschnikoff, 1867, 542-543, pl. 31, figs. 9-11, only species, hence type.

[Not Rhabdogaster Loew., 1858, dipteran.]

Rhabdolaimus de Man, 1880, 59-61. Type species R. terrestris, designated in letter from de Man to Stiles, dated Nov. 30, 1903.

aquaticus de Man, 1880, 60. 3 Q "Sehr häufig." 3 Q "Schr häufig." 3 Q "Schr häufig." 3 Q "Schr häufig.

Rhabdonema Leuckart, 1883, 89. R. nigrovenosum (Gow, 1800) Leuckart, 1883, 89, only species, hence type.

[Not Rhabdonema Kuetzing, 1844, polygastrica; not accessible to us.]

Rhabdonema Perroncito, 1886. [Not accessible to us.]

Rhabdodermion Marion, 1870, 31-32. R. morstatti Marion, 1870, 31-32, pl. J, fig. 1, only species, hence type.

[Not Rhabdodermion Reis, 1888, fish.]

Rhamphogordius Agassiz, 1846, 320, 322. For Ramphogordius.

Rhigonema Cobb, 1898a, Mar., 311, figs. 29, i-iv. R. brevicollis Cobb, 1898a, 311, figs. 29, i-iv, only species, hence type.

rhodessi Desmares, 1828a, 79-81.

[1819: Thelazia (type).] 1828: Thelazius (type).
DETERMINATION OF GENERIC TYPES, ETC. 135

Rhytis Mayer, 1835, 67-72. R. paradoxa Mayer, 1835, 67-72, figs. 1-3, only species, hence type.
[Not Rhytis Zeder, 1803, worm.]

richtersi Jägerskiöld, 1903, Feb. 28, 557-561, 1 fig. 1905: Banonema (type).

Rictularia Frelich, 1802a, 7-13, pl. 1, figs. 1-3. R. cristata Frelich, only species, hence type.

1845: Laphytes Dujardin, 1845a, 3, 653.

rigida von Siebold, 1836, 33.


rigidus Leidy, 1850, 102.

1850: Hystrixathus (type).

ricalis Dujardin, 1845a, 235.

1845: Enoplus. 1865: Plectus.

ricola Corti, 1902a, 113.

1902: Hydromermis (type).

ricularis Bastian, 1865c, 97-98, pl. 9, figs. 3-4.

1865: Monhyyster.-

robusta Bastian, 1865c, 166, pl. 13, figs. 226-227.


robusta van Beneden, 1871a, 18, 19, pl. 3, figs. 2-7.

1871: Coronilla (?) type.

robutum Giles, 1892b, 26-27, 29, 30, figs. 1-5.

1892: Selerostomum. 1900: Triodontus. [1902: Esophygodontus (type).]

1903: Esophagodonous.

robustus Diesing, 1838a, 189, nomen nudum; 1839a, 222-225, pl. 14, figs. 1-7.

1839: Cheirocanthus (type).

rosea Koeffer, 1845b, 88.

1845: Lincola.

rotundatum Linstow, 1903, 117-119, figs. 16-20.

1903: Lissomema (type).

rubra Leidy, 1856, 56.

1856: Filaria. 1861: Dicheilonema.

rude Rudolphi, 1810a, 258-261, pl. 12, fig. 5.

1810: Diceras (type). 1810: Ditrichyceras (type).


Dec., 1529, only species, hence type.

subellioiides Bastian, 1865c, 169-170, pl. 13, figs. 245-246.

1865: Chromadora.

sagax zur Strassen, 1904, 302-346, figs. a, d, g, j, pl. 15, fig. 5.

1904: Anthracomema.

salaris Gmelin, 1790a, 3052.

1782: Cucullanus. 1790: Cucullanus lanu; sub. 1800: Cusculum. [1802: to Ascaris by Rudolphi, 1802.]

salsa Bastian, 1865c, 116, pl. 9, figs. 18-19.

1865: Tripyla.

Schizocheilonema Diesing, 1861a, 621, 710. Renamed Tricheilonema Diesing, 1861a, 710, hence type Tricheilonema megalochilum (Diesing, 1851) Diesing, 1861a, 711.

Selerostoma Rudolphi, 1809a, 35. Type species by inclusion Strongylus equinus. See Strongylus Mueller, 1780.

[Not Selerostoma Burmeister, 1847, coleopteron.]
Sclerostoma Rudolphi—Continued.

Sclerostoma was based upon two species, *Strongylus equinus* Mueller, and *Strongylus dentatus* Rudolphi, 1803. But *Strongylus equinus* is type of *Strongylus*, hence *Sclerostoma* takes the same type and becomes synonym of *Strongylus*. De Blainville (1828a, 544-545) accepted Rudolphi’s subgenus as genus, with the same two species.

*Sclerostomum* Dujardin, 1845a, 3, 244, 254-260, 263. For *Sclerostoma*; hence type species *Strongylus equinus*.

*Sclerotrichum* Rudolphi, 1819a, 223. Only species, hence type *Tenuis spirillum* Pallas, 1781 = *Trichocephalus lacertae* (Gmelin, 1790a = *Mastigodes lacertae* (Gmelin) Zeder, 1803a = *Trichocephalus echinatus* Rudolphi, 1809a = *Mastigodes spirillum* (Pallas) Blainville, 1828 = *Sclerotrichum echinatum* (Rudolphi) Dujardin, 1845a.

*Sclerostomum* Sonsino, 1878, 613. Misprint for *Sclerotrichum*.

*Scoliciformis* Diesing, 1851a, 208.

1851: *Aspidcephalus* (type).

*sutata* Mueller, 1869, 127-129; *scutata cesophagea* boris Mueller, 1869, 127-129, polynomial, later (? date) used as a binomial.


1861: *Scoliciformis* Molin, 1858, 385.

1861: *Cernosoma*.

*serratus* Molin, 1858, 464-467, 469-470, pl. 2, figs. 3-4.

1861: *Monodontus* (type).

*semicircularis* Molin, 1861, 464-467, 469-470, pl. 2, figs. 3-4.

1803: *Capillaria*.

*sayentudus* Mueller, “1773, 42.”


1861: *Filarias*. 1861: *Solenonema*.

1858: *Filaria*. 1861: *Solenonema*.

1861: *Capillaria."


*setifera* Cobb, 1898a, 312, figs. 30, i-v.

1898: *Zoniolaimus* (type).

1859: *Spiroptera*. 1861: *Physcephalus* (type).

1845: *Lineola* (probably type).

1898: *Zoniolaimus* de Man, 1893, 99-102. *S. niger* de Man, 1893, 100-102, pl. 6, fig. 8, only species, hence type.

1894: *Pelagonema* (type).

1871: *Coronilla.*

1894: *Zoniolaimus* van Beneden, 1871a, 6.

1871: *Coronilla.*

1780: *Acanthrus* (type).

1819: *Cucullinus*. [1845: *Dacnitis esuriens* sub.]

1894: *Zoniolaimus* Cobb, 1894c, Apr. 13, 419-420. *S. obtusus* Cobb, 1894c, 419-420, figs. 13, i-v, only species, hence type.
DETERMINATION OF GENERIC TYPES, ETC.

Solenonema Diesing, 1861a, Dec. 6, 620, 704–705. Type species?.

qequal (Molin, 1858) Diesing, 1861a, 704.  ♂ ♀ Host Myrmecephaga jubata.

serpula (Molin, 1858) Diesing, 1861a, 705.  ♂ ♀ Host Phyllostoma brevenrugum.

striata (Molin, 1858) Diesing, 1861a, 705.  ♂ ♀ Hosts Felis concolor, F. macroura.

spectabile Marion, 1870, 20–21, pl. E, fig. 1.

1870: Eurystoma (type).

spherocephala Rudolfi, 1809a, 188–189.

[1787: Pleurovinchus (type).] 1809: Aescaris. 1819: Opisthstoma. 1845: Ducnitis (? type, see also esuriens).

Spharolaimus Bastian, 1865c, 95, 157–158. S. hirsutus Bastian, 1865c, 157–158, pl. 13, figs. 192–194, only species, hence type.

Spharularia Dufour, 1837a, 9. S. bombi Dufour, 1837a, 9, pi. 1, fig. 3, only species, hence type.


elegans Bastian, 1865c, 165–166, pl. 13, figs. 221–222.

inequalis Bastian, 1865c, 166, pl. 13, figs. 223–225. Type of Hypodontolaimus de Man, 1888.

robusta Bastian, 1865c, 166, pl. 13, figs. 226–227. Type of Halichoanolaimus de Man, 1888.

costata Bastian, 1865c, 166–167, pl. 13, figs. 228–229. To Monoposthia, 1889, as type.

Spilophora Bastian, 1865c, See Scudder, 1884, 298.

Spilophora Bastian, 1865c, 95, 178. Type by elimination Spilophora elegans. See Spiliphera.

[Not Spilophora Bohem., 1850, coleopteron; Spilophorus Lac., 1856, coleopteron.]

spinicauda Diesing, 1851a, 188; renamed achenhura Diesing, 1851a, [591].

1851: Aescaris. [1861: Pharyngodon (type).]

Spinifer Linstow, 1901, Apr. 20, 418–419. S. fulleborni Linstow, 1901, 418–419, figs. A–E, only species, hence type. Type locality Nyassa Sea.

[Not Spinifer Rafinesque, 1831, mollusk.]

spinigerum Owen, 1836, 123–126.

1836: Gnathostoma (type).

Spinitectus Fourment, 1884a, 1–8. S. oriflagellis Fourment, 1884a, 1–8, pl. 16, figs. 1–11, only species, hence type.

spinose-Buetschli, 1874b, 273, pl. 5, figs. 20, a-b.

1874: Anoplosloma. 1889: Axonolaimus (type).

spinulosus Diesing, 1839a, 227.

1839: Lecanoecephalus (type).

spira Diesing, 1851a, 34.

1851: Echinorhynchus. 1892: Gigantorhynchus.

Spire Bastian, 1865c, 93, 159–161. Type species S. parasitifera designated by Bastian in letter to Stiles, dated March 22, 1904.

[Not Spira Brown, 1838, mollusk.]

parasitifera Bastian, 1865c, 159–160, pl. 13, figs. 201–203.  ♂ ♀

text Bastian, 1865c, 160, pl. 13, figs. 204–206.  ♂ ♀


spirale Molin, 1857, 222, figs. 10–12.

1857: Gongylonema.
"spiralis" Pallas" of Grundler's Bremser, 1824a, 147–148.

1819: Sclerotrichum (echinatus) type. 1824: Tenia.

spiralis Owen, 1835, 315–324, pl. 41, figs. 1–9.

1835: Trichina (type). 1895: Trichinella (type).

spiralis Diesing, 1851a, 231. Includes Spiroptera obvelata Creplin.

1851: Histiocephalus. [1861: Cosmocephalus alatus.]

spiralis Molin, 1860, 9-47.


spirillum Pallas, 1781, 111–112.


1861: Spirura Diesing, 1861, for Spironoura Leidy, not Spirura E. Blanchard, 1849.

gracile Leidy, 1856, 52–53. ♂♀

affine Leidy, 1856, 53. ♂♀

Spiroptera Rudolfi, 1819a, 22–29, 235–255. Acuaria and Anthuris renamed, hence same type, Spiroptera anthuris. For discussion of this very complicated case, see p. 48.

Spironoura van Beneden, "1858a, 270;" 1861a, 270–271. S. coronata, only species, hence type.

Spiroptera Rudolfi, 1819a, 237. Misprint for Spiroptera.


Spiroxis Schneider, 1866, 29. Corrected to Spiroxyxs Schneider, 1866, 125.

Spiroxyxs Schneider, 1866, 125–126. S. contorta (Rudolfi, 1819) Schneider, 1866, 125; =Spiroptera contorta Rudolfi, 1819a, 25, 242–243, only species, hence type.

1866: Spiroxis Schneider, 1866, 29. Corrected to Spiroxyxs.

Spirura E. Blanchard, 1849a, 161–165. Type species probably S. talpa.

[Not Spirura Diesing, 1861a.]

talpa (Gmelin, 1790a) E. Blanchard, 1849a, 162–164. ♂♀ Host Talpa europaea. See also Spiroptera strumosa. To Filaria by Schneider, 1866.

megastoma (Rudolfi, 1819) E. Blanchard, 1849a, 164–165. ♂♀ Host Equus caballus. To Filaria by Schneider, 1866.

Under ordinary circumstances it would be better to select megastoma as type, on account of its host, but Blanchard seems to have based his genus more upon talpa than upon megastoma; on this account, his original intentions will probably be carried out by taking talpa as type.

Spirura Diesing, 1861a, Dec. 6, 681–682. Spironoura Leidy, 1856, renamed, hence takes same species as type.

gracilis (Leidy, 1856) Diesing, 1861a, 681–682.

affinis (Leidy, 1856) Diesing, 1861a, 682.


1843: Trichosomum. 1845: Calodium.

squati Dujardin, 1845a, 272.

1845: Dactylius.

stagnalis Dujardin, 1845a, 231, pl. 3, fig. C.

1845: Dorylaimus (probably type).

stagnalis Bastian, 1865c, 97, pl. 9, figs. 9-11.

1865: Monhystera (type).
Stelmius Dujardin, 1845a, 281–282. *S. praeclerus* Dujardin, 1845a, 282, only species, hence type.

Stenodes Dujardin, 1845a, 244, 264–265. *S. acus* Dujardin, 1845a, 264–265, only species, hence type.

[Not *Stenodes* Guen., 1845, lepidopteron.]

stenodon Dujardin, 1845a, 234.

1845: Enoplus.

Stenolaimus Marion, 1870, 16–18. Type by original designation *S. lepturus*.

[Not *Stenolaimus* Sign., 1858, hemipteron.]

lepturus Marion, 1870, 16–17, pl. C, fig. 1 (type).

macrosoma Marion, 1870, 17–18, pl. C, fig. 2.

Stenurus Dujardin, 1845a, 244, 265–267. "*Stenurus inflexus* (Rudolphi, 1809)," only species, hence type; = *Strongylus inflexus* Rudolphi, 1809, 227, includes *Strongylus minor* Railliet, 1829, 244, pls. 7–8. See also *Pseudalbis* and *Protheoscolex*.

[Not *Stenura* Dejean, 1834, coleopteron; *Stenurus* Kirby, 1837, coleopteron.]

Strongylus Giles, 18924, 48. Misprint for *Strongylus*.

Stephanurus Diesing, 1839a, 232–233. *S. dentatus* Diesing, 1839a, 232–233, pl. 15, figs. 9–19, only species, hence type. See *Strongylus*.

stercoralis Bavay, 1876a, Oct. 9, 694–696.


Stomachidae Pereboom, 1780, 1–24. *S. vermis* Pereboom, 1780, 1–24, figs. 1–4; = *Ascaris lumbricoides*, only species, hence type. See *Ascaris*.

Streptogaster Cobb, 1898a, March, 320. *S. papillatus* Cobb, 1898a, 320, fig. 45, i–iv. only species, hence type.


1853: *S*treptostomum Leidy, 1853, 45–46. Galeb (1878b, 280) makes *Oxyuris diesigi* the type of *S*treptostomum.

[Not *S*treptostoma Guér., 1862, coleopteron.]

*S*treptostomum Leidy, 1853, Apr., 45–46. See *S*treptostoma.

striata Molin, 1858, 388–389.

1858: *Filaria*. 1861: *Solenonema*.

*striata* de Man, 1876, 117–119, pl. 6, fig. 15 a–d.

1876: *Tylopharynx* (type).

*striatipunctata* Marion, 1870, 35–36, pl. K, fig. 3.

1870: *Acanthopharynx*.

*striatocaudatus* de Man, 1888, 35–36, pl. 3, pl. 4, fig. 16.

1888: *Syringolaimus* (type).

striatus Zeder, 1800a, 83–85.

1800: *Strongylus*. 1861: *Crenosoma* (probably type).

*striatus* Bastian, 1865c, 125, pl. 10, figs. 107–108.

1865: *Cephalobas*.

*striatus* Bastian, 1865c, 164, pl. 13, figs. 219–220.

1865: *Cyntholaimus*.

Strongiloides Grassi, 1879a, 233. Type species *Anguillula intestinalis* = *A. stercoralis*. See *Strongiloides*.

*Strongylus* Rudolphi, 1801, 54. Misprint for *Strongylus*.

*Strongylacantha* van Beneden, 1873b, 13–16. *S. glycierhiza* van Beneden, 1873b, 13–16, pl. 1, figs. 1–7, only species, hence type.

*Strongyliatus* Railliet, 1900, 15. May, 87. Probably lapsus for *Strongylus*.* Strongylus radiatus* only species mentioned.
"Strongyline Erichson, 1843, coleopteron."

Strongyloides Diesing, 1851a, 297; = Strongyulus galeatus Rudolphi, 1819a, 648, renamed; = Sclerostoma galeatum Dujardin, 1845a, 260.


Strongyloides Schneider, 1860, 228, pl. 6, fig. 12.


Strongyloides Grasi, 1879f, June, 497. S. intestinalis (Bayv, 1877) Grasi, 1879f, 497; = stercoralis, only species, hence type.

1879: Strongiloides Grasi, 1879e, 233.

1881: Pseudorhabditis Perroncito, 1881, 499−519.


Strongylus Mueller, "1780, pl. 42, figs. 1−12;" 1784, 6−8. Type species S. equinus Mueller.

1801: Strongylus Rudolphi, 1801, 54. Misprint.

1809: Sclerostoma Rudolphi, 1809a, 35. Type Strongylus equinus Mueller.

1845: Sclerostomum Dujardin, 1845a, 3. For Sclerostoma.


[Not Strongylus Herbst, 1792, coleopteron; Strongylus for Scoliofila Motsch, 1845, coleopteron.]

S. strumosa Zeder, 1800a, 64−66. See also Ascaris strumosa Frelich, 1791a, 82, and Ascaris talpa Gmelin, 1790a.

1800: Fusaria. [1845: Ascaris (Ascaridia) gibbosa (sub).]

S. strumosus Rudolphi, 1802, 63−64.

1802: Echinorhynchus. 1904: Corynosoma (type).

S. strumosus Molin, 1861, 542.

1861: Kalicephalus.

S. stylorus von Linstow, 1883, 299, figs. 36−38.

1883: Gordius. 1897: Paragordius.

S. subcompressa Zeder, 1803a, 45.

1803: Tentacularia.

S. subtilis Looss, 1805, 161−169.

1895: Strongylus. 1905: Trichostrongylus.

S. subulata Dujardin, 1845a, 73−74.

1845: Disparagrus.

S. subulata Eberth, 1863a, 21, pl. 2, figs. 9−10.

1863: Phanoglene. 1865: Leptosomatium.

S. subulatum Molin, 1861, 445−446, pl. 1, figs. 3−4. See dentatus Rudolphi, 1803a.

1861: Esophagostoma (type).

S. subulatus Molin, 1861, 543−544.

1861: Kalicephalus.

S. subulata Molin, 1860, 332−333. S. acutissina Molin, 1860, 332−333, only species, hence type.

S. symnoidea Molin, 1860, 920.

1860: Spiroptera. 1897: Oxyspirura.

Symlocostoma Bastian, 1865c, 94, 132−134. Type species S. longicollis, designated by Bastian in letter to Stiles, dated March 22, 1904.

S. longicollis Bastian, 1865c, 133, pl. 11, figs. 119−122. ♀ ♂

S. tenicollis (Eberth, 1863) Bastian, 1865c, 133. ♀ ♂

S. vitripurva Bastian, 1865c, 133−134, pl. 11, figs. 123−125, as doubtful member of this genus. ♀ ♂
**Determinatio of generic types, etc.**

**Syringolaimus** Bastian—Continued.

ornsata (Eberth, 1863) Bastian, 1865c, 134, as doubtful member of this genus.

♂ ♀

barbata (Carter, 1859) Bastian, 1865c, 134, as doubtful member of this genus.

♂ ♀


Synonchus Cobb, 1894c, Apr. 13, 411–413. Type S. fasciculatus, designated by Cobb in letter to Stiles, dated Dec. 15, 1903.

fasciculatus Cobb, 1894c, 411–413, figs. 10, i–vi. ♀ ♂

hirus Cobb, 1894c, 413. ♀

[Not Synonymycha Chevrolat, 1833, coleopteron.]

Symplecta Leidy, 1851, 239–240. S. pendula Leidy, 1851, 240, only species, hence type.

Syringolaimus de Man, 1888, 34–36. S. striatocaudatus de Man, 1888, 35–36, pls. 3, 4, fig. 16, only species, hence type.

Tachygonetria Wedl, 1862, 471–472. T. vivipara Wedl, 1862, 471–472, pl. 2, figs. 24–26, only species, hence type.

Tachyhydides Bastian, 1865c, 95, 155–156. Type species T. natans, designated by Bastian in letter to Stiles, dated March 22, 1904.

natans Bastian, 1865c, 155–156, pl. 13, figs. 182–184. ♀ ♂

parcus Bastian, 1865c, 156, pl. 13, figs. 185–186. ♀

tenioides Diesing, 1851a, 23.

1851: Echinorhynchus. 1892: Gigantorhynchus.

tenioides Lindemann, 1865, 496.

1865: Paradocites.

Teniola Pallas, "1760, 52;" 1768, 289. [De Harucula seu Teniola osculis obscureis.] See Harucula.

tulpe Gmelin, 1790a, 3032. See also Schrank, 1790, 121.


tardus de Man, 1889, 8.

1889: Camacolaimus (type).

tardus de Man, 1889, 82–83, pl. 5, fig. 1.

1893: Thalassocoalaimus (type).

Tentacularia Zeder, 1800a, 5; = Hamularea Treutler renamed, hence type T. subcompressa, 1803; = H. lymphatica.

[Not Tentacularia Bosc, 1797, worm.]

tentaculata Rudolphi, 1819a, 658.


tentaculatus Hemprich & Ehrenberg, 1828a.

1828: Cossophorus.
tenue Dujardin, 1845a, 28–29. [Includes Trichosoma columbae Rudolphi, 1819a.]
1845: Calodium.
tenne Marion, 1870, 21, pl. E, fig. 2.
1870: Eurystoma.
tennicaudata Bastian, 1865c, 160–161, pl. 13, figs. 207–209.
1865: Spira.
tenicollis Rudolphi, 1819a, 30, 258–259.
1819: Physaloptera.
tenicollis Eberth, 1863a, 41–42, pl. 4, fig. 16; pl. 5, figs. 1–2.
1863: Enoplos. 1865: Symplocostoma.
tennis Dujardin, 1845a, 24–25.
1845: Eucoleus.
tennis Dujardin, 1845a, 73.
1845: Dispharagus.
tennis Bastian, 1865c, 119, pl. 10, figs. 83–84.
1865: Plectus.
tennis von Linstow, 1876, 5–6, pl. 1, figs. 7–9.
1876: Acanthophorus (? type).
tennis Cobb, 1894c, 420–421, figs. 14, i–iv.
Teratocephalus de Man, 1876, 137–139. T. terrestis (Buetschli, 1873) de Man, 1876,
138–139, pl. 7, fig. 25, only species, hence type.
terdentatum von Linstow, 1898, 470–471, pl. 35, figs. 12–14.
1898: Amblyonema (type).
tere Schneider, 1866, 153, pl. 10, fig. 8.
1866: Pelodera.
terrestis Linnaeus, 1758a, 647–648.
1758: Lumbricus (type).
terrestis Buetschli, 1873a, 69, pl. 7, fig. 43.
1873: Anguillula. 1876: Teratocephalus (type).
terrestis de Man, 1880, 60–61.
1880: Rhabdolaimus (type).
terricola Dujardin, 1845a, 240–241.
terricola Bastian, 1865c, 127–128, pl. 10, figs. 115–116.
1865: Tylenchus.
Terschellingia de Man, 1888, 11–12. T. communis de Man, 1888, 12, pl. 1, fig. 7, only
species, hence type.
tetracanthus Mehlis, 1831, 79.
Tetracheilonema Diesing, 1861a, Dec. 6, 621, 711. T. quadrilabiatum (Molin, 1858)
Diesing, 1861a, 711, only species, hence type.
Tetradenos Linstow, 1904, Aug., 301. Ctenocephalus Linstow, 1904, renamed. See
Tanqua.
Tetrameres Creplin, 1846a, 130, 135, 142; = Tropisurus Diesing renamed, hence type
species Tropisurus paradoxus Diesing, 1835.
[Not Tetrameres Schaufluss, 1877, coleopteron.]
Thalassicola de Man, 1889, 4–5. T. britannicus de Man, 1889, 4–5, only species,
hence type.
Thalassolaimus de Man, 1893, 81–83. T. tardus de Man, 1893, 82–83, pl. 5, fig. 1,
only species, hence type.
Theleandros Wedl, 1862, 470–471. T. alatus Wedl, 1862, 470–471, pl. 2, figs. 20–22,
only species, hence type.
The lastomum Leidy, 1849, 231. *T. attenuatum* Leidy, 1849, 231, only species, hence type. See also *Aorurus.

1853: *Thelastomum* Leidy, 1853, 46. For *Thelastoma*.

*Thelastomum* Leidy, 1853, Apr., 46. For *Thelastoma* Leidy, 1849.

*Thelazia* Bosc, 1819, 214–215. La Thélazie de Rhodes Bosc, 1819, 214–215, figs. 1–2 (from cattle); = *Thelazius rhodesii* Desmarest, 1828a, 79–81, only species, hence type. See also *Filaria lacrymalis* Gurlt, 1831.

1828: *Thelazius* Desmarest, 1828a, 79.

*Thelazius* Bosc, 1819, 498–499; = *Thelazia* Bosc, 1819.

*rhodesii* Desmarest, 1828a, 79–81.

*Theristus* Bastian, 1865c, 95, 156–157. Type by elimination *T. acer.*

*acer* Bastian, 1865c, 156–157, pl. 13, figs. 187–188. (Type.)

*velor* Bastian, 1865c, 157, pl. 13, figs. 189–191. ♀ [To *Monobynthera* (Penzancia [type]) by de Man, 1889, 7.]

*Thomine* Dujardin, 1845a, 3, 22–23. *T. manica* Dujardin, 1845a, 22–23, only positive species, hence type.

*manica* Dujardin, 1845a, 22–23. ♂

*tricus* Dujardin, 1845a, 23. ♂ Given as doubtful.

*Thoracostoma* Marion, 1870, 25–30. Type species probably *T. echinodon.*

*echinodon* Marion, 1870, 26, pl. II, figs. 1–1k. ["de beaucoup la plus commune."] ♀

*dorylaimus* Marion, 1870, 27, pl. II, fig. 2. ["assez rare."] ♀

*montredonense* Marion, 1870, 27–29, pl. I, figs. 1–1f. ♂

*zele* Marion, 1870, 29–30, pl. I, figs. 2–2e. ♂

*tiaia* Linstow, 1879, 320, pl. 5, fig. 1.


*tolomanus* Dujardin, 1842a, 118; 1842e, 146–149.

1842: *Gordius.* 1897: *Parachordodes* (type).

*trachelaia* Siebold, 1836, 105–116, pl. 3, figs. i–ii.

1836: *Syngamus* (type).

*Trefusia* de Man, 1893, 84–86. *T. longirauda* de Man, 1893, 85–86, pl. 5, fig. 3, only species, hence type.

*triwanthus* Diesing, 1853a, 35.

1853: *Cephalacanthus*.

*Tribacis* Dujardin, 1845a, 3, 653, renamed *Rhabditis* Dujardin, 1845a, 230, 239–246, 653. Hence same type species.

[Not *Tribacis* Billb., 1820, lepidopteron.]

*Tricheilonema* Diesing, 1861a, Dec. 6, 710–711. *T. megalocheila* (Diesing, 1851) Diesing, 1861a, 711; = *Schizocheilonema* Diesing, 1861a, renamed, only species, hence type.

*Trichodostomi* Diesing, 1851a, 264, 278–279. Subsection of *Cheilostomi* of *Filaria*. Only species *Filaria megalocheila*. See *Tricheilonema*.

*Trichina* Owen, 1835, 315–324. *T. spiralis* Owen, 1835, 315–324, pl. 41, figs. 1–9, only species, hence type. See *Trichinella* Railliet.

[Not *Trichina* Meig., 1830, dipteran; *Trichina* Kirby, 1837, coleopteron; *Trichina* Bischof., 18—, worm; *Trychina* Klug., coleopteron for *Trychine* Klug., coleopteron.]
trichiura Linneaus, 1767, 543; 1771, 543.


[1800: type of *Mastigodes* Zeder, 1800a, by inclusion.]

*Trichnia* Tyson, 1903, 1191. Misprint for *Trichina*, 1835.

*Trichocephalus* Schrank, “1796, 232.” [Not accessible to us.]

1796: *Linguatula*. [1803: *Capillaria tamida* (type).] [1809: *Trichocephalus capillaria* sub.]

[1819: *Trichosoma brevicolle* sub (type).]

*Trichocephalus* Goeze, 1782a, 119. See *Trichocephalus*.

*Trichocephalus* Goeze, 1782a, 40, 112–123; = *Trichuris* renamed, hence type *Trichuris trichiura*.

*Trichocephalus* Schrank, 1788, 4–5; Gmelin, 1790a, 3024, 3038–3039. For *Trichocephalus* Goeze, 1782a, hence type *Trichuris trichiura*.

*Trichoderma* Greef, 1869a, 115–117. *T. oxyaunda* Greef, 1869a, 115–117, pl. 6, figs. 9–10, only species, hence type. [Not *Trichoderma* Steph., 1835, coleopteron; Swains., 1839, fish; Nonfried, 1894, insect.]

*Trichodes* von Linstow, 1874, 271–286. *Trichosoma crassicauda* (Bellingham, 1845) von Linstow, 1874, 271–286, pl. 8, figs. 1–6, only species, hence type. See *Trichosomoides*.

[Not *Trichodes* Herbst, 1792, coleopteron; *Trichitis* Felder, 1874, lepidopteron; *Trichoda* Huebner, 1806, lepidopteron.]

*Trichonema* Cobbold, 1874, Feb., 85–87. *T. urculata* Cobbold, 1874h, 85–87, figs. a–g, only species, hence type. [Not *Trichonema* Fromentel, 1875, protozoon; *Trichecnemus* Stål, 1873, hemipteron.]

*Trichosoma* Rudolphi, 1819a, 13–16, 219–223; = *Capillaria* Zeder, 1800a, renamed, hence type *T. brevicolle* equals *Capillaria anatis* (Schräng, 1790).

1839: *Trichosomum* Creplin, 1839a, 278.

[Not *Trichosoma* Boisl., 1834, lepidopteron; *Trichosoma* Swains., 1839, fish; *Trichosomus* Swains., 1839, fish; *Trichosomus* Chevrolet, 1881?, coleopteron (see Scudder, 1884, 341).]

Rudolphi deliberately renamed *Capillaria* and included both of Zeder’s originals among his original species, namely, (1) *Trichosoma brevicolle* Rudolphi, 1819; = *Trichocephalus capillaria* Rudolphi, 1809, which included *Capillaria tamida* Zeder, 1803a, *Linguatula trichocephala* Schrank, 1797, 232, and *Trichocephalus anatis* Schrank, 1790; (2) *Trichosoma longicolle* Rudolphi, 1819a; = *Capillaria semiteres*, 1803. This latter species Rudolphi (1809a, 84) named *Hamularia nodulosa*, including as synonyms *Capillaria semiteres* Zeder, 1803a, *Linguatula unilinguis* Schrank, 1796, 231, *Filaria gallinae* Gmelin, 1790a, 3040, and “*Gordius gallinae* Goeze,” 1782, of Rudolphi, 1809a.

*Trichosomoides* Railliet, 1895, 1302; = *Trichodes* renamed. Type species *Trichosomoides crassicauda* (Bellingham, 1845).

*Trichosomum* Creplin, 1839a, 278; = *Trichosoma* Rudolphi, renamed, hence type species *Capillaria anatis*.

*Trichostrongylus* Looss, 1905, 413–417. Type species *T. retortaformis* (Zeder, 1800).

*retortaformis* (Zeder, 1800) Looss, 1905, 413, 417–418, pl. 1, figs. 1–3.

*subtilis* (Looss, 1895) Looss, 1905, 418–419, pl. 1, figs. 4–6, 8; pl. 2, fig. 7.

*probolurus* (Railliet, 1896) Looss, 1905, 419–421, pl. 2, figs. 9–11.

*vitrinus* Looss, 1905, 421, pl. 2, figs. 12–14.

*instabilis* (Railliet, 1893) Looss, 1905, 422.

*trichiura* Werner, 1782, 84. Misprint for *trichiura*.  

144  BUREAU OF ANIMAL INDUSTRY.
Trichuris Röderer & Wagler, 1761, 10. Oct., 243; 1762, 41–42, 185–189, 193, pl. 3, figs. 4, a–b. T. trichiura, only species, hence type. Apparently no specific name was used by Röderer & Wagler. Also type by virtual tautonymy.

1782: Trichocephalus Goze, 1782a; = Trichuris renamed, hence type species is Trichuris trichiura.

1790: Trichocephalus Gmelin, 1790a. For Trichocephalus.

1800: Mastigodes Zeder, 1800a; = Trichuris renamed, hence type species Trichuris trichiura.

1801: Tricocephalus Lamarc, 1801, 338. For Trichocephalus. Type T. hominis = Trichuris trichiura.

[Not Trichurus Wagner, 1843; for Trichosurus Lesson, 1828, mammal; Trichura Huebn., 1816, lepidopteron; Trichiura Linneus, 1758, fish; Trichiura Steph., 1829, lepidopteron.]

triciti = tritici, misspelled. See Bastian, 1865c, 126.

Tricocephalus Lamarc, 1801, 338. For Trichocephalus. T. hominis is the only species mentioned.

tricolor Dujardin, 1845a, 290–291.

1845: Hystrichis (type).

Tricoma Cobb, 1894c, Apr. 13, 389–391. T. cincla Cobb, 1894c, 390–391, figs. 2–3, only species, hence type.

[Not Tricoma Walk., 1865, lepidopteron.]


tricuspidata Dufour, 1828d, 223–224, pl. 12 C, fig. 1.

1828: Filaria. 1897: Paragordius.

tricuspis Leuckart, 1865, 227.

1865: Ollulanus (type).

tridens Dujardin, 1845a, 23.

1845: Thominix.

tridentatus Dujardin, 1845a, 233–234.

1845: Enoplus (?) type. [1845: Tricontus (?) type.]

trigonocephalus Rudolphi, 1809a, 231–232.


Trilobus Bastian, 1865c, 93, 99–100. Type species T. gracilis, designated by Bastian in letter to Stiles, dated March 22, 1904.

gracilis Bastian, 1865c, 99, pl. 9, figs. 20–22. ♀ ♂
pellucidas Bastian, 1865c, 100, pl. 9, figs. 23–24. ♀
langus (Leidy, 1851) Bastian, 1865c, 100.

[Not Trilobus Bruc. , 1781, crustacean.]

Triodontophorus Looss, 1902, 13. May, 37, 78–86; = Triodontophorus Looss, 1900 [not Westwood, 1845], renamed. Type species Triodontophorus serratus, designated as type in a personal letter from Looss to Stiles, dated Oct. 3, 1903.

minor (Looss, 1900) Looss, 1902, 82–83, pl. 3, figs. 23–30. ♀ ♂
serratus (Looss, 1900) Looss, 1902, 83–84, pl. 3, figs. 31–38. ♀ ♂

Triodontophorus Gedölst, 1903a, 56, 93. For Triodontophorus, 1902.

Triodontus Looss, 1900, 12. Feb., 153, 190–191. Type species by present designation T. serratus. See also Triodontophorus.

[Not Triodontus Westwood, 1845, coleopteron; Triodont Cuvier, 1829, fish; Ameghino, 1875, mammal.]

6328—No. 79—05——10
Triodontus Looss—Continued.

*minor* Looss, 1900, 190–191. ♀ ♂

*serratus* Looss, 1900, 191. ♀ ♂

*robustus* (Giles, 1892) Looss, 1900, 190. Type of *Eosophagodontus*, 1902.

*Tripyla* Bastian, 1865c, 93, 178. Changed to *Tripyla*.

*Tripyla* Bastian, 1865c, 93, 115–116; = *Tripyla* renamed. Type species *T. glomerans*, designated by Bastian in letter to Stiles, dated March 22, 1904.

1865: *Tripyla* Bastian, 1865c, 93, 178.

[Not *Tripylus* Phil., 1845, echinoderm.]

*glomerans* Bastian, 1865c, 115–116, pi. 9, figs. 16–17. ♀

*salsa* Bastian, 1865c, 116, pi. 9, figs. 18–19.

*Tripyloides* de Man, 1886, 60–66. Type species *T. vulgaris*, designated by de Man to Stiles, dated Nov. 30, 1903.

*vulgaris* de Man, 1886, 61–66, pi. 11, figs. 1–11.

[marina Buetschli, 1874]

*tritici* Steinbuch, 1799, 251; or Bauer, 1823, 1–16, pl. 1, figs. 1–23; pl. 2, figs. 1–2. [Both authors quote Roffredi.]


*tritici* Bastian, 1865c, 120, pl. 10, figs. 91–92.

1865: *Plectus*.

*Tropidocerca* Diesing, 1851a, 80, 207. *T. paradoxa* (Diesing, 1835) Diesing, 1851a, only species, hence type; includes *Tropisurus paradoxis* Diesing, 1835a, *Tetrameres hexacanthus* Creplin, 1846a, and *Spiroptera inflata* Mehlis. See also *Acanthophorus*.

*Tropidurus* Wiegmann, 1835, 338, for *Tropisurus* Diesing, 1835.

[Not *Tropidurus* Neuwied, 1824, reptile.]

*Tropisurus* Diesing, 1835a, 83, 93–105. *T. paradoxis* Diesing, 1835a, 94–105, only species, hence type.

1835: *Tropidurus* Wiegmann, 1835 [not Neuwied, 1824, reptile].

1846: *Tetrameres* Creplin, 1846a [not Schaufuss, 1877, coleopteron].

1851: *Tropidocerca* Diesing, 1851a.

[Not *Tropidurus* v. Neuwied, 1824, lizard.]

*truncata* Rudolphi, 1793, 12.


*truncata* Zeder, 1803a, 105–106 [not Rudolphi, 1793].


*truncata* Creplin, 1825a, 12–14.

1825: *Spiroptera*. 1845: *Dispharagus*.

*truncata* Plieninger, 1852, 255.

1852: *Filaria*.

*truncatus* Lamarck, 1801, 340.

1801: *Crino* (type).

*truncatus* Bastian, 1865c, 101, pl. 9, figs. 25–26.

1865: *Mononchus* (type).

*tuttix* Fabricius, 1794, 30–33, pl. 3, figs. 9–12.

1794: *Cucullanus*. [1845: *Dacnitis globosa* sub.]

*tuberculatus* Eberth, 1863a, 38–39, pl. 4, figs. 1–5.


*tubifera* Fabricius, 1780a, 273. Includes *Ascaris uraksuk* Mueller.


*tumida* Zeder, 1803a, 61.

1803: *Capillaria*. 146
Mononchus. tunicatus typicus Tynbridgensin typicus uncinipenis uncinatws Tylenchus Tylencholaimus. Tylencholaimus de Man, 1876, 119–123. Type species T. mirabilis, designated in letter from de Man to Stiles, dated Nov. 30, 1903. mirabilis (Buetschli, 1873) de Man, 1876, 120. Q minimus de Man, 1876, 120–122, pl. 6, figs. 16, a–b. Q zeelandicus de Man, 1876, 122–123, pl. 6, figs. 17, a–b. Q Tylenchus Bastian, 1865c, 125–128; Tylenchus renamed. Type species T. darainii, designated by Bastian in letter to Stiles, dated March 22, 1904. darainii Bastian, 1865c, 126, pl. 10, figs. 109–111. δ Φ trielt ( = vitici misspelled) Bastian, 1865c, 126–127, pl. 10, figs. 112–114. δ Φ terricola Bastian, 1865c, 127–128, pl. 10, figs. 115–116. Φ obesus Bastian, 1865c, 128, pl. 10, figs. 117–118. δ Φ dipsoci (Kuhn, 1857) Bastian, 1865c, 128. agrostidis Bastian, 1865c, 128. Includes Vibrio graminis Steinbuch, AングuilluA gramineorum Diesing partim.

Tylenchus typicus de Man, 1880, 63–64. T. typicus de Man, 1880, 64, only species, hence type.

Tylopharynx de Man, 1876, 116–119. T. striata de Man, 1876, 117–119, pl. 6, figs. 15, a–d, only species, hence type.

typica Diesing, 1861a, 644; = Alodopa renamed.

[1853: Oxyurus alodopa.] 1861: Alodopa (type).

typicus Diesing, 1861a, 669.

typicus de Man, 1880, 64.

1880: Tylopharynx (type).
typicus Cobb, 1891c, 157–158, figs. 9, i–iv.

1891: Dipelitis (type). 1905: Dipelopelitis (type).

Uncinaria Fischer, 1799a, 99. Apparently a misprint for Uncinaria.

Uncinaria Fredich, 1799a, 130–139. Type species Uncinaria vulpis Fredich, 1799a.


1845: Dochmius Dujardin, 1845a, 267, 276–279; = Uncinaria renamed; hence type species Uncinaria vulpis.


[Not Uncinaria Vest., 1867, mollusk.]

Uncinatus Molin, 1858, 154.

1858: Echinoucheclus (type).

Unciniipenis Molin, 1860, 928–929.

1860: Spiroptera, 1861: Cheilosipirura.

Uncinaria Schmaltz, 1903, 15, Jan., 42. Misprint for Uncinaria.


"unilinguis Schrank, 1797, 231, n. 2." [Not accessible to us.]

1797: Linguatula. [1809: Hamulatula.] [1819: Trichosoma longicole.]

Uracanthus Diesing, 1861a, Dec. 6, 728. U. brevispinosus Diesing, 1861, only species, hence type.

[Not Uraeantus Hope, ante 1846 [see Agassiz, 1842–46], coleopteron; Uraeantus Fitzinger, 1865, bird.]
Urodiles Carter, 1858a. June, 414. U. palustris Carter, 1858a, 414, only species, hence type.

*Ustilago* Linnaeus, 1767, 1326.

1767: *Chaos.*

*racilans* Leidy, 1856, 50.

1856: *Nema* (type).

*racillatum* Leidy, 1855, 144.

1855: *Pontonema* (? type).

*rarius* Leidy, 1851, 263.

1851: *Gordius.* 1897: *Paragordius* (type).

*veligera* Rudolphi, 1819a, 656.

1819: *Ascaris.* 1866: *Dermatoxys* (type).

*vesicularis* Froelich, 1791a, 85-88, pl. 3, figs. 12-14, emend. Creplin. See *papillosa* Bloch, 1782a.


*vesicularis* Rudophli, 1809a, 129, in part. See also *Heterakis vesicularis* and *Ascaris vesicularis* Froelich, 1791a.

1809: *Ascaris.* [1845: *Ascaris* (Ascaridia) inflexa sub.]

*vesiculosa* Schneider, 1866, 109, 1 fig.

1866: *Ceratospira* (type).

*Vibrio* Mueller, 1773, 39-49. Type species very doubtful.

*lineola* Mueller, 1773, 39. To *Melanella atoma* by Bory, 1824; to *Vibrio* by Ehrenberg, 1830a, 61, 66, 69, 70; 1831, 69, 70; 1838a, 79.

*bacillus* Mueller, 1773, 40. To *Enchelys* by Oken, 1815, 36; to *Vibrio* by Bory, 1824a; Ehrenberg, 1830a, 1831, 1838a.

*anguiUula* Mueller, 1773, 41; =*Anguillula glutinis* (Mueller, 1783) Mueller, 1786, 64 (type of *Anguillula*).

*serpentulus* Mueller, 1773, 42. To *Amblyura* by Hemprich & Ehrenberg, 1828a (? type).

*vermicularis* Mueller, 1773, 42-43. To *Bursaria intestinalis* by Ehrenberg, 1835a, 164; 1838a, 82, 327.

*undula* Mueller, 1773, 43-44. To *Spirillum* by Ehrenberg, 1830a, 38; 1831, 68; 1838a, 84.

*intestinum* Mueller, 1773, 44. To *Enchelys* ? by Ehrenberg, 1838a, 82.

*proteus* Mueller, 1773, 45, or (Pallas, 1786). Includes *Proteus* Baker, 1752, see *Chaos chaos*, p. 38; and *Brachionus* cf. Pallas. To *Amoeba* (? 1878). Possibly type of *Vibrio*, by inclusion.

*fallx* Mueller, 1773, 46. To *Trachelus* Ehrenberg, 1838a, 82, 323.

*anser* Mueller, 1773, 46-47. To *Amoeba* by Bory, 1822a; to *Amphileptus* Ehrenberg, 1830a, 43; 1831, 116; 1833; 1835a; 1838a.

*cygnus* Mueller, 1773, 47. To *Trachelus*, 1803, 56; to *Amoeba* by Bory, 1822a; to *Amphileptus anser* by Ehrenberg, 1830a, or 1838a, 82.

*malleus* Mueller, 1773, 47-48. To *Cercaria* by Ehrenberg, 1838a, 82.
DETERMINATION OF GENERIC TYPES, ETC.  149

_Vibrion_ Mueller—Continued.

_urticinus_ Mueller, 1773, 48. ?To _Trachelius_ by Schrank, 1803; Ehrenberg, 1838a, 82, 323.

_fasciola_ Mueller, 1773, 48–49. To _Paramecium_ by Mueller, 1776, 280; to _Trachelius_ by Ehrenberg, 1830a, 54, 56, 78; 1831, 116; 1835a, 164; 1838a, 356.

_colymbus_ Mueller, 1773, 49. To _Amphileptus_ by Ehrenberg, 1838a, 82.

This case is so complicated that we have no desire to suggest a ruling upon it at present. So far as we have followed it, however, the nematodes seem to be eliminated from any further necessity of consideration as type of _Vibrio_.

Our catalogue does not as yet contain full cross references for this genus, but possibly _proteus_ is type by inclusion.

_villosus_ Bastian, 1865c, 123, pl. 10, figs. 99–101.

1865: _Aphelechus_.

_violaceus_ Baird, 1853a, 36–37.

1853: _Gordius_. 1897: _Parachordodes_.

_vipers_ Rudolphi, 1819a, 37.

1819: _Strongylus_. 1851: _Diaphanocephalus_.

_Viscosia_ de Man, 1890, 184–189. Subgenus of _Oncholaimus_. Type species by virtual tautonymy _O. (Viscosia) viscosus_; also by subsequent designation by de Man. _Oncholaimus (Viscosia) viscosus_ Bastian, 1865c, 136, pl. 11, figs. 131–133. ♀♀

_Oncholaimus (Viscosia) langrancieus_ de Man, 1890, 186–188, pl. 4, fig. 8. ♀♀

_Oncholaimus (Viscosia) glaber_ Bastian, 1865c, 136, pl. 11, figs. 129–130. ♀♀

_viscosus_ Bastian, 1865c, 136, pl. 11, figs. 131–133.

1865: _Oncholaimus_. 1890: _Oncholaimus (Viscosia) [type]_.

_ritiensis_ Gilson, 1898a, 335–369, 1 pl., figs. 1–23.

1898: _Carnoya_ (type).

_ritrea_ Hammerschmidt, 1838a, 358, pl. 4, figs. a–b.

1838: _Filarena_ (type).

_virinus_ Looss, 1905, 421, pl. 2, figs. 12–14.

1905: _Trichostrongylus_.


1862: _Tachygonetria_ (type).

_viripara_ Bastian, 1865c, 133–134, pl. 11, figs. 123–125.

1865: _Symphlocostoma_. 1874: _Anoplostoma_ (type).

_vicparus_ von Linstow, 1899, 12–13, pl. 2, figs. 22–24, 26–27; pl. 4, fig. 41.

1899: _Pterocephalus_ (type).

_vryburgi_ Railliet, 1902, 107–108.

1902: _Agriostomum_ (type).

_vulgaris_ Mérat, 1821, 225; _humbricoideae_, 1758, renamed.

[1758: _Ascaris_ (type).] 1821: _Lambriocides_ (type).

_vulgaris_ Bastian, 1865c, 158–159, pl. 13, figs. 195–197.

1865: _Comesoma_ (type).

_vulgaris_ Bastian, 1865c, 167–168, pl. 13, figs. 233–235.


_vulgaris_ de Man, 1886, 61–66, pl. 11, figs. 1–11.

1886: _Tripyloides_ (type).

_vulgaris_ de Man, 1893, 119–122, pl. 7, fig. 13.

1893: _Enoplolaimus_ (type).


1898: _Graphonema_ (type).

_vulpis_ Frelich, 1789a, 137–139, pl. 4, figs. 18–19.

1789: _Uncinaria_ (type). [1845: _Dochmius_ (type).]

_wedii_ Molin, 1861, 467–469. [See _Strongylus cernuus_ and _Strongylus trigonocephalus_.]

1861: _Monodontus_. [1902: _Busostomum_ (type).]
weismanni zur Strassen, 1904, 302–346, figs. b, c, e, h, pl. 15, figs. 1–4; pl. 16, figs. 6–9.
1904: Anthraconema (type).
volterstorffi Camerano, 1888e, Apr. 6, 6.
1888: Gordius. 1897: Parachordodes.
Xyo Cobb, 1898a, Mar., 315. X. histrix Cobb, 1898a, p. 315, fig. 37, only species, hence type.
zelandicus de Man, 1876, 122–123, pl. 6, figs. 17, a–b.
1876: Tylencholaimus.
zelandicus de Man, 1880, 14–15.
1880: Desmolaimus (type).
zola Marion, 1870, 29–30, pl. 1, fig. 2.
1870: Thoracostoma.
Zoniolaimus Cobb, 1898a, Mar., 312. Type species Z. setifera, designated by Cobb in letter to Stiles, dated Dec. 15, 1903.
setifera Cobb, 1898a, Mar., 312, figs. 30, i–v. ♂ ♀
brevicaudatus Cobb, 1898a, Apr., 440–441, figs. 102–103. ♂ ♀

ADDENDA.

Cacullanus Rafinesque, 1815, 151, misprint for Cacullanus.
Crinola Rafinesque, 1815, 151, new name for Crino Lam., hence same type.
Dacnites van Beneden, 1858a; 1861a, 271; = Dacnitis Duj.
Dyctophymus Rafinesque, 1815, 151, new name for Dioctophyme, hence same type: Echiramphus Rafinesque, 1815, 151, new name for Echinorinchus Mueller, hence same type.
Hseruca Rafinesque, 1815, 151, new name for “Hseruca L.”, hence same type.
Heteroura Siebeld, 1836, 116; Hedruris Nitzsch renamed, hence type androphora.
Loa Stiles, MS. (new subgenus). Type Filaria loa Guyot. 1778.
Oxyurias Stiles, MS. (new subgenus). Type Oxyuris vermicularis (Linnaeus, 1758). Rhabdias Stiles & Hassall, 1905, 123, 150, type R. bufonis (Schrank, 1788), equals Ascaris nigrovenosa.
Spherurus Rafinesque, 1815, 151, nomen nudum; new genus of Scolexia to contain species of Ascaris; but these are not mentioned.
Toxocara Stiles, MS. (new genus). Type Lumbricus canis Werner, 1782.
Trichostrongylus Looss, 1905 (retortiformis); add to table of genera, p. 31.
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